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SYSTEM AUDIT OF THE STANDARD ARMY INTERMEDIATE LEVEL

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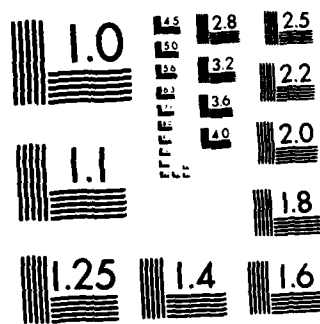
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SYSTEM AUDIT  
OF THE  
STANDARD ARMY INTERMEDIATE LEVEL SYSTEM  
(SAILS)AB(X)

SEPTEMBER 1978

PREPARED FOR  
DEPARTMENT OF THE ARMY  
CONTRACT NO. DAAG39-76-R-9235

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## SECTION 1 - INTRODUCTION

### 1.1 GENERAL

The System Audit of the Standard Army Intermediate Level System (SAILS AB(X)) was conducted for the Deputy Chief of Staff Logistics, Department of the Army, under contract with the Harry Diamond Laboratories, Contract Number DAAG39-76-R-9235.

It was a selective audit in that it was not intended to audit all processes within the system but only those connected with Demand Analysis, (except for the Demand Analysis Evaluator which was not operational in Hawaii and was not available for audit), Stock Fund Stratification and Supply Performance. Therefore, the report is directed toward these three areas. However, in order to make a thorough audit in these areas, it was necessary to examine the processes which contribute to these procedures such as the Issue process, the Due-In/Due-Out process, Inventory and Adjustment process, and Catalog File Maintenance process. Therefore, all of the findings and recommendations are not confined to the three areas specifically being audited. Where warranted, observations are made in other areas. In addition, it should be noted that it is not a negative audit directed toward just finding out what is wrong with the system, it was considered just as important to note that which is being performed correctly. These observations too are included in the report.

### 1.2 PURPOSE

The purpose of the study was to examine those processes within the system, particularly the Demand Analysis process, which could, if not performed properly, contribute to inconsistencies in the Stock Fund Stratification Reports and the Supply Performance Report. The Stock Fund Stratification report (expressed in dollars) should agree with the Asset Balance File (expressed in quantities). Increases in supply control study levels (expressed by requisitioning objective (RO) levels) should be reflected by corresponding increases in supply performance (expressed in terms of percent demand satisfaction). Where inconsistencies are observed the actions necessary to correct the deficiencies are to be initiated.

### 1.3 SCOPE

The study effort was confined to the SAILS AB(X) prototype system as it was operating in Hawaii under SCP04 during the period January to March 1978. The supply management and stock control processes were examined by tracking representative actions through the system. Routine reports as well as special request records, when required, were also examined. All system documentation as well as detailed program documentation necessary for the audit were furnished by U.S. Army Computer Systems Command. The details of the study methodology are covered in subsequent sections of this report.

### 1.4 OBJECTIVE

The objective of the audit is to determine whether or not there are system or programming inconsistencies within the demand analysis process or the stock control process which would cause erroneous supply management data outputs from those processes or discrepancies in the processing of this data which could in turn cause distortions in the Stock Fund Stratification Report or the Supply Performance Report; if so, to identify the inconsistencies and to initiate corrective actions.

### 1.5 BACKGROUND

Since 1970 the Department of the Army has been engaged in the development and deployment of the Standard Army Intermediate Level System (SAILS). The basic concept in developing SAILS has been to integrate the more efficient modules from several existing systems to provide a standard system to be used at the intermediate level world-wide. A phased development plan was envisioned that included limited CONUS installation for test and evaluation, an orderly expansion to other CONUS installations, and eventual applications to intermediate level supply activities overseas. The General Functional Requirements for the system were approved during the third quarter of 1971, and the Detailed Functional Requirements were completed in 1972. Design and programming were completed in 1973, and limited installation was begun during 1973 and early 1974. By July 1974, SAILS had been installed at some 31 CONUS locations. Further expansion was temporarily halted to accommodate the identification and correction of several observed system deficiencies. The major deficiencies have been overcome and SAILS has been extended to other CONUS installations and SAILS AB(X), the expanded version of

SAILS which includes medical supplies and separate storage operations, is being prototype tested in Hawaii with further expansion in March 1978.

Some of the initial difficulties encountered centered in the system's inability to meet a daily supply cycle requirement. This was due in part to overloaded computer facilities at some locations, but by and large, the problem resulted from suboptimum design and underestimated computing requirements. These problems are typical of those encountered with a system developed by converting and linking modules and programs from several different systems. Efficiency is often degraded whenever a module is moved from one operating environment to another. Inadvertent errors of logic and design are often introduced when modules from different systems are linked in a new environment. Another major modification of the SAILS has resulted from the changes to the systems logic and programming necessary to accommodate the Direct Supply Support concept.

Several problems existed or have been introduced in SAILS AB(X). Symptomatic of these problems are (1) apparent inconsistencies in dollar values between the Stock Fund Stratification Report and the Asset Balance File, and (2) the simultaneous decrease in Supply Performance with an increase in requisitioning objective (RO) levels.

## SECTION 2 - STUDY METHODOLOGY

### 2.1 PHASES OF ACTIVITY

Study activities were scheduled to occur in phased stages throughout the contract period of the Systems Audit. The schedule is shown in Exhibit 1.

Phase I consisted of a review of SAILS AB(X) documentation, including user procedures, systems codes, file formats, inputs and outputs. System Validation Diagrams (SVDs) were prepared for use as a guideline in the analysis and validation of the SAILS AB(X) Demand Analysis System (Exhibit 2). The SVDs reflect the system requirements as specified in the SAILS AB(X) documentation, and were the basis for definitions of data flow tests and formulations of test hypotheses.

Phase II consisted of the on-site study of the SAILS AB(X) as functioning in Hawaii, the tracking of various input transactions through the processing system and the preliminary verification of output results against expected results. Phase II was oriented primarily to data collection and file verification. The data collected for use during the Systems Audit included output reports and listings, selected file dumps, and pertinent program listings. A list of reports, file dumps and programs used in the audit is shown in Exhibit 3.

The following transactions were tracked through systems processing:

115 customer requisitions, for all materiel categories (except medical), for all unit types which were active in the system and for both recurring and non-recurring demands. Supply actions included issues, partial issues, issues of a substitute item, backorders, partial backorders, passing actions, referrals for management decisions, and immediate cancellations (rejections).

22 intransit receipt confirmations. 14 of these were confirmations for the requested item; 8 for a substitute/interchangeable item.

26 customer turn-ins.

5 receipts into stock (receipts for replenishment).

37 catalog data changes, including 6 stock number changes, and 2 unit of issue changes.

17 demand analysis file maintenance transactions.

31 demand cancellation transactions; cancellations included both complete and partial quantities for recurring and for non-recurring demands.

In addition, the Asset Balance File, the Document History File, and the Demand History File were monitored for selected stock numbers (or document numbers) through the daily, weekly, and monthly update cycles. For auditing the Demand Master File, 95 selected master records were printed before the Monthly Demand Analysis Update Cycle and then printed again afterwards. In all, approximately 700 report requests were prepared by the Systems Audit Team for purposes of file monitoring.

Users of the SAILS AB(X) assisted in the Systems Audit by providing additional information concerning system processing and by suggesting potential problem areas based on current user experience.

In Phase III of the Systems Audit the preliminary findings concerning possible inconsistencies were presented to the SAG for progress review and additional direction. The minutes of the April 17, 1978 SAG Meetings are shown in Exhibit 4.

Phase IV consisted of a detail systems audit in the following areas:

1. Demand Analysis
  - a. Processing of transactions to maintain Demand History
  - b. Levels computation and reports
2. Quarterly Stratification Report
3. Supply Performance Report

These processes were verified or analyzed from the systems documentation, user procedures, program listings, and output reports. At the request of the SAG, the emphasis in Phase IV was given to analysis of the Performance Report and the Stratification Report.

## 2.2 AUDIT OF THE DEMAND ANALYSIS SUBSYSTEM

The following basic requirements apply to the audit of the Demand Analysis Subsystem:

1. The computations of levels must conform to those specified in the systems documentation and the pertinent demand data must be printed correctly on systems reports. The following computations must be correct: demand rates, operating level, safety level, order ship time, economic order quantity, reorder point, and requisitioning objective, including constraints for maximum and minimum quantities.

2. In order for the systems computations and reports to be valid, the Demand Master File must contain complete and valid data.

a. All recurring and non-recurring demands must be recorded on the Demand Master File when customer requisitions are processed and cancelled (reversed) when a demand is cancelled.

b. All demand analysis input transactions must be correctly formatted and routed to the demand analysis update process by processes in the Basic Cycle.

c. The Update Process must process input transactions by adding, changing or deleting the specified file record.

d. There must be no hidden discrepancies which will delete file records inadvertently due to program errors, sequence errors, scheduling errors, etc.

e. Catalog data changes, including stock number changes, must be processed according to the same basic logic in the DMF update and in the ABF update.

f. DMF records must be 'aged' in the monthly update run, as described in the systems documentation.

## 2.3 AUDIT OF THE STRATIFICATION REPORT

The following basic requirements apply to the audit of the Quarterly Stratification Report, CSGLD-1438:

1. Data entries appearing on the Quarterly Stratification Report must be taken from the appropriate file entries and computations must conform to Army Logistics Standards.



2. Assets must be stratified in the order of priority of requirements and sequence of application as specified in AR 710-1 and TM 38-711-6X, Chapter 19.
3. Assets available for stratification must be reported in mutually exclusive categories of Serviceable On Hand, Unserviceable On Hand, and On Order Due-In. The unsatisfied requirements remaining after assets have been applied to requirements must be shown as deficits. Assets remaining after requirements have been satisfied must be grouped as excess, reported or unreported, according to criteria in TM 38-711-6X.
4. Two additional memorandum totals, memorandum dues-out and dues-in from Procurement must be broken out for selected stratification elements in accordance with TM 38-711-6X.
5. Figures shown on the report must be an accurate extension of assets quantities multiplied by current unit price rounded to the nearest dollar.
6. Computation of logistical ratios, i.e., assets to requirements and assets to Average Monthly Demand (AMD) must be in accordance with AR 710-1. The AMD is to be the sum of the average monthly RO recurring demands extracted from the unit demand records and accumulated by line item.
7. Records which do not meet specific edit criteria for stratification must be identified for subsequent inclusion in the QSR Exception Records Listing (PCN ALB-098).
8. The actual preparation of the report must be accurate in arithmetic processes, such as rounding conventions and roll-ups.

#### 2.4 AUDIT OF THE PERFORMANCE REPORT

The following basic requirements apply to the audit of the Monthly/Quarterly Secondary Items Performance Report:

1. Data Entries appearing on the Secondary Items Performance Report must be taken from the appropriate file entries and computations must conform to Army Logistics Standards.

2. The Document History File (DHF) must contain complete and valid data to provide statistics on the processing of computer requisitions at the supporting installation. Requisitions for PEMA principal items, bulk POL, bulk dry cleaning solvent, and all PLUS requisitions are to be excluded from the report.

3. Requisitions are to be grouped by issue priority designator and type of item requisitioned (stocked or non-stocked). Data are to retain this classification through the subsequent processing including the printed report.

4. The document number date is to be used to establish further statistical groupings such as average elapsed days and late processing. Time standards used in measuring on-time performance are to be extracted from code table PERTMSTD as described in TM 38-711-3X, Appendix A.

5. Subsequent actions, such as rejections, backorders, MRO's and MRD's are to be extracted from segments of the DHF and used to key further classification of the requisition for analysis of performance.

6. Selection and classification of transactions used in this report must conform to the criteria specified in TM 38-711-6X (TEST), Chapter 20, Section II, Paragraph 20-4a.

7. Demand satisfaction should reflect the percentage of requisitions for stockage items which were 90 percent or more filled at the time the requisition was initially processed for issue. Demand accommodation should reflect the percentage of all requisitions received that were for stockage items. Requisitions totally rejected should be excluded from these calculations.

## 2.5 USE OF PROGRAM LISTINGS

The program listings have been used:

1. to verify, particularly in relation to complex computations, that the program coding follows the procedures specified in TM 38-L03-16 and TM 38-711-6X; to ascertain whether or not the data extracted from the files and printed in the reports does in fact represent the information required by applicable Army Regulations.

2. to determine the file source and contents of data being used in computations and report lines.

3. to ensure, by comparison with printouts of active files, that file descriptions are correct and that the correct fields are used.

4. to verify not only that programming is correct, but also that the logic flow accesses the required routines.

5. to verify that work areas and print lines are properly defined in order to avoid loss or distortion of data.

6. to review the processing of Demand Analysis System Control macro tables, verifying that they are being loaded in the same position and same format (e.g., months or days) as required by program computations and that the MACROS are correctly accessed by the programs which use these controls.

It is not the purpose of this analysis to evaluate program listings in terms of coding efficiency, duplication of codes, or relative coding techniques. Where program changes have been recommended, the changes are shown within the current program logic structure and represent the minimum change required to produce the suggested result.

## SECTION 3 - FINDINGS

### 3.1 DEMAND ANALYSIS

#### 3.1.1 General

In order for the demand analysis levels computations to be valid, the data base used for the computations must be completely accurate. The analysis of data base validity included the tracking of the various demand update transactions through the system to ensure that the correct data reached the demand analysis subsystem and the monitoring of the demand update system as it processed these transactions, both in the weekly and monthly updates. After verifying the validity of the file data, the levels computations, output reports, and use of the demand data for the Stratification Report were also examined in detail. The findings are presented in the following categories:

1. Processes prior to Demand Analysis
2. Demand Analysis File Update
3. Demand Analysis Levels Computations
4. Demand Analysis Output Reports

The use of demand data in producing the Stratification Report is described in paragraph 3.2. The effect of demand data on Supply Performance is described in paragraph 3.3.

#### 3.1.2 Processes Prior to Demand Analysis

1. Customer Requisitions

All examples of requisitions analyzed in this study were correctly routed to the Demand Analysis Subsystem. These examples included all unit types which are active in the system, both recurring and non-recurring demands, and all types of issue action. Requisitions referred for management decision were recorded as specified in the User Procedure; that is, the demand is recorded unless the Exception Control Code (EPC) is entered in Control Table DHDMDEPC. Demands are recorded against the requested stock number unless:

- a. The stock number has been changed by catalog update.
- b. The reentry requisition for EPC's in Control Table DHDMDEPC contains a substitute/preferred stock number. In this case, the reentry stock number overlays the original stock number and the demand is recorded on the reentry stock number in both the Document History File and the Demand Master File. Demand recording is controlled by a demand indicator code in the Document History File so that a demand transaction is never created twice for the same document number.

## 2. Cancellations

Cancellations (demand reversals) are formatted for Demand Analysis whenever a confirmed cancellation status, AE\_ with cancellation status code, is processed. There are four minor programming errors in creating demand reversals.

- a. Erroneous reversals are sometimes created when a substitute item is received on a passing action. See Appendix A, page A-55.
- b. Erroneous reversals are created when the manager forces the release of a substitute item. See Appendix A, page A-52.
- c. Valid reversals for non-recurring demands are sometimes formatted as recurring demand reversals. See Appendix A, pages A-38 to A-41.
- d. Valid reversals for partial quantities are sometimes formatted as reversals for complete quantities. See Appendix A, pages A-38 to A-41.

In most cases, these erroneous reversals are rejected by the Demand Subsystem, often retaining non-recurring demands which should be cancelled. In other cases, recurring demands which should be retained may be erroneously cancelled.

These discrepancies can be corrected in the Document History validation and update programs. Additional details and suggested coding changes are given in Appendix A. (Page references above.)

## 3. Other Transactions

The additional transactions required by the Demand Analysis Subsystem are correctly formatted and routed.

- a. Intransit Receipt Confirmations for recording DSS order ship time.
- b. Customer turn-ins for recording turn-in rates.
- c. Replenishment receipts for recording order ship time.
- d. Catalog data changes for changing catalog data, including stock number and unit of issue changes.
- e. Demand analysis file update transactions for adding, changing or deleting demand records.

### 3.1.3 Demand Analysis File Update

#### 1. General

Since the accuracy of the DMF Update programs is critical to the successful functioning of the system, the update processes were examined in depth, particularly in view of two danger signals apparent at the beginning of the study.

- Valid internally generated transactions were being rejected as 'error' records.
- The users mentioned that records seemed to disappear completely after processing a stock number change.

After extensive analysis, it has been determined that the update processes are accurate and valid, within the following limitations:

- there are a few minor discrepancies in the exception reports. (Coding changes are specified in Appendix A, page A-6.)
- obsolete records for Unit Types 4 and D are not being deleted. This does not affect the accuracy of demand computations. (Coding changes are specified in Appendix A, page A-35.)
- The inclusion of DSS demand data in the trended demand rate is causing an erroneous reduction of levels. (See paragraph 3.1.4.)

2. The processing of the following update transactions was verified:

a. Demands

Demands are correctly recorded as recurring or non-recurring, DSS and non-DSS. (The use of project code to identify DSS units is not addressed here because the latest documentation indicates that unit type code has been changed to identify DSS/non-DSS units and that the programs are being changed accordingly.) "Fringe memo" records are established when the first demand (recurring or non-recurring) is received and the second demand causes a 'request for catalog data' (ZPR) to be forwarded to the Basic Cycle. (The recycled catalog data is correctly established in the demand master header record.) Demands are recorded against the stock number in the transaction, unless the stock number has been changed by a catalog change transaction. If the stock number has been changed, the "new" stock number overlays the transaction stock number and the transaction is recycled for the next weekly update. It is not possible for the program to identify a duplication of a previous demand, but it has been verified that duplicate demands are not generated (see paragraph 3.1.2.1).

b. Demand Cancellations/Reversals

The update program correctly processes demand reversals, reversing the complete quantity if the management code is 'C' and a partial quantity if the management code is 'X', either recurring, non-recurring, or "fringe memo" records. If there is no matching header record or no matching unit record, or no matching demand type (recurring/non-recurring) or no demand recorded for the record, the reversal is rejected with the error message "no record on demand file". It is not possible for the program to identify an erroneous cancellation. If there is a matching record on file, the demand will be cancelled and if there is no matching record on file, the transaction will be rejected. (Coding to correct erroneous cancellation transactions is shown in Appendix A, pages A-38, A-52 and A-55).

It has been verified that document number date is being used by both Document History and Demand Update and that there is no date discrepancy in determining the period of the demand to be reversed.

c. Catalog Data

(1) Stock Number changes are correctly processed in the Demand Analysis Subsystem. Records for the "old" stock number are reconstructed with the "new" stock number and recycled for update in the next weekly cycle. A "cross reference" record is constructed for the "old" stock number to relate it to the new stock number, as specified in the systems documentation.

There are two possibilities which might cause records to seem to disappear:

- (a) the "new" stock number is incorrectly printed on the exception report, although the file entry is correct.
- (b) "type stock number" is used as part of the "key" to find DMF records, but is not always updated correctly for the "new" stock number.

Coding changes to eliminate these discrepancies are shown in Appendix A, pages A-2, A-29.

(2) Unit of issue changes and other catalog changes are processed correctly within the Demand Analysis Subsystem. However, there are discrepancies between Demand Analysis processing and Basic Cycle processing, particularly in unit of issue and unit price. In the example shown in Appendix E, pages E-13, E-14, a unit of issue change was processed against the DMF and also the Document History File, but not against the ABF. These unit of issue discrepancies cause invalid levels to be retained.

The SAG stated that unit of issue, unit price, and other catalog data discrepancies are known problems and corrective action is in progress. At their request, the problem was not further analyzed in this study.



d. In-Transit Receipt Confirmations

DSS Order Ship Time in the Demand Header is correctly recorded from in-transit receipt confirmations. When these transactions are rejected with the message "no record on Demand File," it is because only one demand has been received and the record on file is a fringe memo which has no provision for recording DSS Order Ship Time. (Coding to suppress the extraneous exception line is given in Appendix A, page A-6).

e. Customer Turn-Ins

Customer turn-ins transactions correctly update the turn-in record of the Demand Master File. The turn-in rate is "aged" according to the criteria specified in systems documentation and is printed as an informational line on output reports. The turn-in rate does not pertain to the processing of levels computations or to demand rate forecasts. However, the turn-in rate is subtracted from the demand rate to give the "Issued Last 12 Months" entry on the Supply Control Study.

f. Materiel Receipts

Materiel receipts for replenishment requisitions are correctly used to update the SCA average order ship time in the Demand Header record of the DMF and to compute OST variance.

g. Management Input and Demand File Maintenance Transactions

On-site monitoring of these transactions was inconclusive due to the low volume or lack of input and the necessity for "after the fact" analysis. However, detailed analysis of program coding reveals no errors or discrepancies in the processing of these transactions.

- (1) Demand Analysis Item Controls, Header Record, (DIC PMH)
- (2) Demand Analysis Systems Controls (DIC PMM)
- (3) Demand Analysis Item Controls, Storage Subrecord (DIC PMS)
- (4) ASL Update Transactions (DIC PAA, PAC, PAD)
- (5) PLL Update Transactions (DIC PLA, PLC, PLD)
- (6) ASL/PLL Transfers (DIC PTL)

(7) Levels Changes (DIC PRC, PRA, PRD)

Note: The Levels Release Card (DIC PRC) is not used because system control SCSB is set to zero and computed levels are not held in suspense.

3. Deletions

The File Update Programs were verified to ensure that demand records are not being erroneously deleted and are not "lost" due to sequence errors or format errors.

Programs and output listings were monitored for the correct deletion of obsolete records. Obsolete records are being deleted with the exception of records for unit types 4 and D. (Coding changes are given in Appendix A, page A-35).

4. Monthly Update

The programs and output listings were verified to ensure that the "ageing" process is accomplished as specified in the systems documentation.

5. DSS Data

When there are both DSS and non-DSS demands for the same items, the DSS data are combined with the non-DSS data for the following file entries:

Normal Demand Rate  
Trended Demand Rate  
Demand Rate Variance  
Number of Demands  
Sum of Priorities  
Current Quantity of Demands  
Number of Demands in 360 Days  
Date of First Demand  
Date of Last Demand

The effect of this consolidation is discussed in paragraph 3.1.4, Levels Computations and paragraph 3.1.5, Demand Analysis Reports.

## 6. Quarterly Stratification Report

The Demand Data Records which are used in the production of the Quarterly Stratification Report are correct and valid with the one possible exception of minor discrepancies caused by erroneous cancellation transactions. (See paragraph 3.1.2.2.)

## 7. Unit Price

Demand analysis programs use unit price from the Demand Master File for computing the dollar values of demands and of forecast demands.

Since these programs use the Unit Price from the DMF as being recorded in dollars and cents, without regard to price signal code, it was necessary to verify that unit prices are in fact recorded on the DMF in that format. The conversion of unit price to dollars and cents format takes place in program P02ALD and program P03ALD correctly records the converted unit price on the DMF.

### 3.1.4 Demand Analysis Levels Computations

#### 1. General

The Demand Analysis Levels Computations are essentially correct and follow the specifications given in the systems documentation. The demand data on file is accurate with the exception of possible (minor) discrepancies due to erroneous cancellation processing. The levels computations have two minor discrepancies concerning minimum buy and shelf life which are discussed in paragraphs 3.a. and 3.b. In addition, the inclusion of DSS data in certain computations can produce unpredictable results.

#### 2. Selection of Stockage Items by Issue Priority

When an item is not on a Customer PLL/ASL, the average priority of the demands, along with the unit price, determines the number of non-DSS demands required to add or retain the item for stockage (as shown in Systems Control Tables SSS<sub>1</sub>). However, the Average Issue Priority from the Demand Master File, which is used as a variable in this computation, is the average issue priority for both the DSS

and the non-DSS demands for the item. (In many instances, the DSS demands exceed the non-DSS demands.) If the average issue priority of DSS demands differs considerably from the average priority of non-DSS demands, the use of average issue priority becomes questionable. An inflated average priority due to DSS demands could cause an item to be added to stockage or retained on the stockage list when the item would not otherwise qualify. Conversely, a deflated average priority due to DSS demands could cause a qualified item to be dropped from the stockage list.

The use of average priority in stockage determination can be eliminated by altering SC SSS\_ to use the same number of demands for each priority. (For example, see the current entry in SSSC).

### 3. Operating Level

#### a. Minimum Buy

(1) A minimum buy RO is currently being computed for all low priced items regardless of the maximum shelf life for perishable items. The computation is caused by a secondary minimum buy computation which is intended to compute a minimum buy for "special" levels but is accessed for all computations of operating level. At the present time, this condition results in a minimum stockage in support of DSS mission essential items. (See Appendix E, Page E-16.) The stockage backup for DSS mission essential items is a known problem and corrective action is in progress, apart from this study. However, this computation is used also for non-DSS mission essential items, so that lower priced mission essential items (with a zero entry in SC STKS) are stocked to the minimum buy level. TM 38-L03-16, paragraph A-76, (System Control STKS), states:

"Because DA policy currently does not encourage mission essential stockage, the value is normally loaded at 0.", but does not specify whether a minimum buy computation should override a zero entry.

Although this is a very minor discrepancy, Appendix C provides coding statements to bypass the minimum buy computation for perishable items. An optional coding statement is provided to bypass the minimum buy computation when the operating level has been set to zero.

(2) It should be noted that the minimum buy computation is virtually inoperative when the minimum buy is set to \$1.20, as it is in the current system. For example, to produce an operating level below 24 (the minimum buy level) for a 5¢ item, the demand rate would have to be less than .032.

On the other hand, the low minimum buy value results in supply control studies which show seemingly large variations in requisitioning objectives over short periods of time. During the on-site data collection, it was observed that some items showed several wide fluctuations in RO within periods of two weeks to two months. These fluctuations are related to low unit price and apply particularly to items with a unit price less than \$1.20. As an example, Exhibit 5 shows operating levels by demand rate and unit price using commodity constant 30. As can be seen from this figure, a change in the demand rate from .5 to .7 will increase the operating level by a quantity of 17 when the unit price is \$.05. A demand rate of .5 will produce an operating level of 95 for 5¢ items (compared to 10 for \$5.00 items). The operating level quantity for low priced items is extremely sensitive to demand rate changes, but continued fluctuations for very low demand rates would normally be eliminated by the minimum buy level (to the extent that the minimum buy level is high enough to cover the fluctuations). A low minimum buy level fails to inhibit these fluctuations. (The EOQ minimum, expressed in months of supply, cannot overcome the fluctuations caused by low price and low demand rate because a month's supply will be a very small quantity.)

b. Maximum Operating Level for Perishable Items

For perishable items, the operating level should never exceed the maximum operating level in the shelf life table (System Control MSOL). The reason for this protection, as explained in TM38-L03-16, A-40, is that "some of the shelf life may have expired when the items are received and some shelf life should remain when the item is issued." TM38-L03-16 also states that the shelf life limit in SC MSOL is considered for all items which have a shelf life code. (See paragraph 3-16f(2).)

However, the minimum operating level specified in System Control EOQA is allowed to override any consideration of perishability. That is, if the computed EOQ is less than the EOQA minimum, the operating level will automatically be set to the EOQA minimum, regardless of shelf life. (The current EOQA minimum is one month for non-medical items and two months for medical items.)

This provision allows operating levels to exceed shelf life, but depends on the demand rate and price for the item (the EOQ). As an example, the following discrepancy could occur for a medical item with a maximum shelf life operating level of 15 days. If the computed EOQ operating level is one month, which is less than the EOQA minimum, the operating level will be set to two months (the EOQA minimum). If the computed EOQ operating level is eleven months, which is greater than the EOQA minimum, the operating level will be set to 15 days (the shelf life maximum operating level).

While this is not a serious deficiency, it was reported to the first SAG meeting and possible corrective action is being considered. At the request of the SAG, the program has been analyzed to determine the effect of a zero entry in the EOQA minimum operating level.

It has been found that a zero entry in the EOQA minimum level will not invalidate the program logic or cause any processing errors. The result would be the same as eliminating the minimum operating level check. That is, the concept of a minimum EOQ would be removed from the system and the number of months in the operating level could be set, for example, as low as .001.

Alternative coding statements are included in Appendix A, page A-25, to test for maximum shelf life while maintaining the minimum EOQ concept (a minor programming change).

c. Forecast Demand Rate

(1) Reduction of Operating Level

A serious discrepancy in operating level computation could occur under the following conditions:

- non-DSS demands equals or exceeds 99 demands in the last 12 months
- DSS demands for the item are also numerous with the DSS demand rate possibly exceeding the non-DSS demand rate.

If the above conditions occur, the operating level could be severely reduced or even eliminated (removing the item from the stockage list).

It is not known whether these conditions are actually occurring in the system. Of the hundreds of items analyzed during this study, the non-DSS demands were never observed to meet the above criterion. However, if an item is not being stocked, the demands are not necessarily visible because the automatic Supply Control Study is suppressed when the stockage list code is 'Z' both before and after the RO computation.

(2) Activation of Trend

The above discrepancy could occur if the trended demand rate is used in the operating level computation. However, the trended demand rate is not used in computing the operating level unless the total number of non-DSS demands equals or exceeds the value in System Control TRND. This control is currently set to 99 for non-medical items. When the number of non-DSS demands meets the criterion, the forecast demand rate is used in computing the operating level. The forecast demand rate is computed as follows (See TM38-L03-16, Chapter 3-13).

$$\frac{(\text{Two-Minus-Alpha}) \times \text{Normal Demand Rate} - (1-Z) \times \text{Trended Demand Rate}}{(\text{One-Minus-Alpha})}$$

While the normal demand rate is computed on the basis of non-DSS demands, the trended demand (from the Demand Master File) includes both non-DSS and DSS demands. As can be seen from the above computations a trended demand rate which is considerably greater than the normal demand rate, results in the forecast of a downward trend (since the adjusted trended demand rate is subtracted) and gives a forecast demand rate which is considerably lower than the current demand rate. This relationship is shown graphically in Exhibit 6.

An example of the distortion caused by the presence of DSS demands is given below. (The Supply Control Study for this stock number (2990009737950) is shown in Exhibit 7. (Note that the forecast demand rate was not used in the RO computation because the number of non-DSS demands did not meet the SC TRND criterion.)

The normal demand rate (DSS + non-DSS) is 37.944

The trended demand rate (DSS + non-DSS) is 25.536

The non-DSS demand rate is .497

The item is demand qualified on the basis of non-DSS demands.

The trended demand rate indicates that demands are stable or increasing (when both non-DSS and DSS demands are considered).

Using the same factors shown as examples in TM38-L03-16, 3-13c., the forecast demand rate would be computed as:

$$\frac{(1.805 \times .497) - (.9592 \times 25.536)}{.8462} = -27.779$$

Since the demand rate is negative, the program will set the forecast demand rate to zero. If the forecast demand rate had been used in the RO computation, the item would be deleted from the stockage list. Another sample of a forecast demand rate of zero is shown in Exhibit 8. In this case, the item would not have been removed



from the stockage list because the manager has specified that 99 percent of the non-recurring demands will be included in the operating level. The demand rate for the operating level would have been based on the non-recurring demand rate only.

The use of forecast demand rate in operating level computations can be eliminated by setting SC TRND to its maximum value, 999999.

The forecast demand rate is used in computing the Demand Trend Ratio, regardless of the entry in SC TRND. See paragraph 4 below for the effect of forecast demand rate on safety level computations.

#### 4. Safety Level

##### a. General

The computations of Safety Level follow the specifications in TM78-L03-16. However, the Safety Level is consistently reduced or eliminated when there is DSS demand data for the item. An example of elimination of Safety Level is shown in Exhibit 9. The reason for the reduction is that the forecast demand rate is always used in the Safety Level Computation regardless of the entry in SC TRND.

##### b. Safety Category Code

The Safety Category Code (SCC) is a basic component of the Safety Level computation (and also of the Forecast Order Ship Time. See paragraph 5 below).

If not set by the manager, the SCC is computed from Readiness Value (or Edit Code, or Operating Level Code), Average Priority of Demands, unit price and trended demand ratio. Two of these elements, Average Priority and Trended Demand Ratio, are distorted by the presence of DSS demands for the item.

##### (1) Programmed Mission and Service Value (PMSV)

The first step in the assignment of the SCC is the computation of the PMSV. The PMSV is computed on the basis of the readiness value, edit code or operating level code and the average issue priority for the item. The PMSV is then modified against unit price (EMVA) and demand trend ratio (TMSV) to produce the Safety Category Code. However, as stated in TM38-L03-16, 3-20c.,

"the initial selection of the PMSV has more to do with the ultimate value of the SCC than any of the remaining decisions by SC EMVA and TMSV. Because the SCC drives the computation of safety level protection against variations in OST and demand rate, it is more important than any other computational value in the DAS in determining the level of customer support rendered."

The PMSV will be distorted to the degree that DSS data, if present for the stock number, varies from non-DSS data in average issue priority. Higher priorities will tend to inflate the degree of protection requirements while lower priorities may erroneously decrease the protection requirements.

The use of average priority in the assignment of Safety Category Code can be eliminated by altering SC PMV\_ to use the same value for each priority.

## (2) Trended Mission and Service Value (TMSV)

The final step in the assignment of the SCC is the computation of the TMSV from the trended demand ratio. The Trended Demand ratio is computed as:

$$\frac{\text{Forecast demand rate}}{\text{non-DSS demand rate}}$$

where the forecast demand rate can be reduced by DSS data (see paragraph 3.1.4.3, Operating Level.) In the computation of Demand Trend Ratio, the entry in SC TRND does not apply and forecast demand rate is used, regardless of the number of demands for the item. If the forecast is erroneously reduced, the ratio is likely to become less than one, indicating a downward trend which does not necessarily exist. DSS demands, if present on the file, can create a "downward trend" which could reduce the Safety Category by two levels from the "no change" position e.g., SCC "7" could become "9", according to the SC TMSV entries. When the SCC is "9", the Safety Level will be zero. That is, safety level requirements may be reduced or eliminated when DSS demands are on file for the item.

The use of trend ratio in the assignment of Safety Category Code can be eliminated by altering SC TMS\_ to use the same value for each trend ratio.

c. Safety Level Computations

(1) Safety Level for "normal" Order Ship Time (OST) is computed as:  $.04112 * \text{SFLA entry} * \text{Demand Rate Variance} * \text{forecast OST}$

where

-- SFLA value depends on Safety Category Code (see paragraph 4b)

-- demand rate variance is computed from DSS data combined with non-DSS data

-- forecast OST varies with Safety Category Code (see paragraph 5)

(2) Safety Level for "short" OST is computed as:

$$\text{SFLA entry} * \text{non-DSS demand rate} * \frac{\text{forecast OST}}{30.4}$$

where

-- SFLA value depends on Safety Category Code and forecast OST varies with Safety Category Code

(3) That is, nearly every element in the computation of Safety Level could be distorted if there are DSS demands for the item.

5. Forecast Order Ship Time (OST)

The computations of OST follow the specifications in TM38-L03-16. However, forecast OST (which is used in the computation of OST levels) is computed as:

$1.25 * \text{average OST variance} * \text{OSTX value} + \text{average OST}$

and the OSTX value depends on Safety Category Code, which can be distorted by DSS demands (see paragraph 4b).

## 6. Retention Level

The Retention Level computations follow the specifications in TM38-L03-16 (DSS demands are included). The Forecast Demand Rate is used in the computation of retention quantity if the number of recurring non-DSS demands is equal to or greater than the SC TRND table entry. The Forecast Demand Rate may be reduced by DSS demands (see paragraph 3.1.4.3.), reducing the effect of non-DSS recurring demands on the retention quantity. Retention quantity is computed as follows: (forecast demand rate or non-DSS recurring demand rate + non-DSS non-recurring demand rate + DSS recurring demand rate + DSS non-recurring demand rate) \* retention limit.

## 7. Summary of Levels Computation Processing

The Requisitioning Objective as computed by the Demand Analysis Subsystem for items supported by non-DSS demands is substantially correct. For items having no DSS data, the accuracy is very high.

The following areas are noted for further consideration.

### a. Stockage/Non-Stockage Decisions

(1) It is possible for erroneous cancellation transactions to reduce the number of non-DSS demands for an item and eliminate the item from stockage. The effect of cancellation errors is probably minimal. Suggested program changes are given in Appendix A, pages A-38, A-52 and A-55.

(2) The inclusion of DSS data in the average issue priority for an item could cause the erroneous addition or deletion of the item from stockage. The effect of DSS data would depend on the volume of the DSS demands and the degree of difference in priorities, if any, between DSS and non-DSS.

(3) Items can be erroneously eliminated from stockage if non-DSS demands exceed 98 per year and there are also numerous DSS demands for the item.

b. Mission Essential Items

RO's are currently being computed for DSS mission essential items. The SAG has stated that this is a known problem and it is not further addressed in this study.

c. Unit of Issue Discrepancies

Unit of Issue discrepancies are occurring between the ABF and DMF. When this condition occurs, levels cannot be updated and invalid levels (usually pertaining to a different unit of issue) continue to be maintained. The SAG has stated that this is a known problem and it is not further addressed in this study.

d. Shelf Life

It is possible for operating levels to exceed the shelf life of perishable items with a very low shelf life. This is a very minor discrepancy and program changes are given in Appendix A, page A-25.

e. Minimum Buy

Minimum Buy operating levels can be computed for perishable items and for mission essential items with an assigned operating level of zero. This computation can be easily changed, if desired, by means of program statements shown on page A-28.

f. Operating Level

Operating levels may be erroneously reduced if non-DSS demands exceed 98 per year and there are numerous DSS demands for the same item.

g. Safety Level

(1) Safety Levels could be erroneously increased or decreased by the inclusion of DSS data in average issue priority. The effect of DSS data would depend on the volume of the DSS demands and the degree of difference in priorities, if any, between the DSS and non-DSS.

(2) Regardless of the priority discrepancy, Safety Levels are being erroneously reduced or eliminated when there is a high volume of

DSS demands for the item, causing a "downward trend" to be forecast. It is estimated that the actual quantity difference of the reduction would tend to be relatively small in each case.

h. Order Ship Time and Retention

Order Ship Time Levels and Retention Levels may also be distorted to some extent when DSS data is present for the item.

3.1.5 Demand Analysis Output Reports

1. General

With a few minor exceptions, the data shown on Demand Analysis Output Reports is valid. The usefulness of some of the report entries may be reduced due to the combination of DSS and non-DSS data. For informational purposes, the contents of the data entries are described in cases where the derivation of the entry is not immediately apparent.

2. The Item Data Report (PCN-ALD-028)

The Item Data Report is a formatted printout of the contents of the Demand Master File (DMF) and so contains some useful data entries which are not printed on any other report. The report, as printed, correctly reflects the contents of the Demand Master File. The following inconsistencies were noted:

a. Safety Category Code (computer generated) is always shown as "9" on the Item Data Report because this entry is never updated on the DMF. The computed Safety Category Code is printed on the Supply Control Study.

b. The counts of demands issued from safety level and demands against zero balance (safety level failure) are not valid. These entries, when valid, can provide a valuable indication of safety level performance. The SAG has stated that the invalid entries are a known problem but that priority for further development of these entries is low and no further action is required in the current study.

c. Counts of criteria failure are never set. These counts are normally used to make known to the manager the number of requisitions rejected directly to the customer because of constraints set by the manager. This, again, is a known problem with very low priority and no immediate action is required.

d. The following data entries include both DSS and non-DSS data and so are limited in value for use in relating the entries to computed levels, projected requirements or supply management decisions.

Normal Demand Rate

Trended Demand Rate

Demand Rate Variance

Number of Demands (for computing average priority)

Sum of Priorities (for computing average priority)

Current quantity of demands (used in computing rate variance)

Number of Demands in 350 Days

Date of First Demand

Date of Last Demand

3. Unit Data Report (PCN ALD-023)

This report correctly prints unit data from the Demand Master File. The only report total (recurring demands) combines both DSS and non-DSS demands for an overall total.

4. Supply Control Study (PCN ALB-09)

The data entries on this report are essentially correct.

a. The following minor discrepancies were noted:

(1) Levels Reason

The Supply Control Study sometimes shows "demand qualified" as the levels reason with a computed RO of zero and a Stockage List Code of "Z". The conflict of data entries results from the setting of the reason code in an earlier program (P03ALD) which uses the "number of demands in 360 days" in determining demand qualification. This entry contains the total count of both DSS and non-DSS demands. (The computed levels and stockage list code are correct.)

Program coding is provided in Appendix A (page A-16) to overlay a levels reason of "demand qualified" when the computer RO is zero and to suppress the recycling of extraneous zero levels.

(2) Non-Recurring Annual Frequency and Non-Recurring Monthly Demand Rate

Non-recurring DSS demands are added into the Non-Recurring Monthly Demand Rate Entry but are not added into the Non-Recurring Annual Frequency. The resulting entries sometimes appear to be invalid; for example, a high monthly non-recurring demand rate with a zero frequency. Optional coding to add the DSS demands into frequency is given on page A-32. (Any non-DSS non-recurring demands which have been applied to the RO computation are correctly shown in the entry DMD RATE FOR RO.)

b. The following entries in the Demand History Data Section are described in detail for further study. It should be emphasized that these data entries are printed on the report for information only and do not apply in any way to the computation of stockage levels. (An example of the described entries is shown in Exhibit 10.)

(1) Forecast Annual Demand

The Forecast Annual Demand is computed by multiplying the monthly demand rate by twelve and by the unit price. This is the same method used to accumulate the AFAO Requirement Totals for the Quarterly Stratification Report. However, the elements added together for the monthly demand rate do not agree either with the Stratification details (both DSS and non-DSS, recurring and non-recurring) or with the RO computation (non-DSS only).

The following quantities are added together for the monthly demand rate:

- non-DSS recurring demand rate (or forecast demand rate if number of demands is 99 or greater)
- Demand Rate Adjustment Quantity



- Percentage of demand rate for non-DSS non-recurring to be included in the RO
- DSS recurring demand rate
- DSS non-recurring demand rate

Non-recurring non-DSS demands are excluded except for the percentage specified by the managers to be included in the RO.

(2) Issued Last 12 Months

This entry is more precisely "demands recorded last 12 months, less turn-ins." The computed monthly demand rate is multiplied by 12 and by unit price for the report entry. The following quantities are added together for the monthly demand rate:

- non-DSS recurring demand rate
- non-DSS non-recurring demand rate
- DSS recurring demand rate

The turn-in rate is subtracted.

The DSS non-recurring demand rate is excluded.

(3) Forecast versus Issues

Since the two entries, (1) and (2) above, are adjacent on the report and appear to be related for informational purposes, the entries are misleading. The manager cannot interpret the entries to mean that if the forecast is greater than the issues, demands are increasing and vice versa because the two entries are not based on the same demand rate.

- (a) The "forecast" will tend to exceed the "past issue" if there are DSS non-recurring demands on the file (because DSS non-recurring demands are excluded from the "issues").

(b) The "issues" will tend to exceed the "forecast" if there are non-DSS non-recurring demands on file but none specified to be included in the RO (because the non-DSS non-recurring demands are excluded from the "forecast").

(c) That is, although the system appears to be forecasting an increase or decrease in demand rate, it may in fact be reflecting only the absence/presence of non-recurring demands on the Demand History File and the relative proportion of DSS/non-DSS recurring demands.

(d) The inclusion of DSS data (when it is not related to stockage of the item) invalidates the data for use as a management tool in monitoring supply performance and making stockage decisions. On the other hand, the inclusion of the DSS data in the forecast does not result in using the same data elements that are used in Stratification Report totals and the forecast cannot be considered a component of the Stratification Report AFAO Issue Requirements totals.

(4) Percent Trend

Percent Trend, as defined in TM38-L03-16, paragraph 3-22.f., is computed as follows:

$$\frac{\text{Forecast demand rate} - \text{normal demand rate}}{\text{normal demand rate}} \times 100$$

The following formula is used in the program

$$\frac{\text{forecast demand rate} - \text{non-DSS normal} + \text{DSS normal}}{\text{non-DSS normal} + \text{DSS normal}}$$

If there are DSS demands on the file, this computation produces an invalid quantity; the higher the DSS demand rate, the greater the amount of distortion in the "trend". (If DSS demands are to be

included in the trend, the non-DSS and DSS rates in the numerator should be enclosed in parentheses.)

It should be noted that the forecast demand rate may also be invalid. (see paragraph 3.1.4.)

(5) Percent Variance

This entry is calculated as follows:

$$\frac{\text{Demand Rate Variance}}{\text{Normal Demand Rate}} \times 100$$

In this case, all components of the rates include both DSS and non-DSS demands so that the ratio itself is mathematically valid. If there are no DSS demands on file, the information (pertaining to the variance between "forecast" demands and actual demands) will be of interest to the supply manager. The use of variance is defined as (TM38-L03-16, 3-10): "The greater the variance, the greater the need for safety level to provide a given level of customer support." To the extent that DSS demands are included in the computation (but excluded from levels computations), the data entry is of little value as a tool for supply management decisions. However, the individual variances do apply to the rates used to compute AFAO recurring demands.

(6) Date of Last Demand

This entry includes both DSS and non-DSS demands so that if there are DSS demands on file, the date of the last demand applicable to RO computations is unknown.

5. ASL/PLL Reports (PCN ALD-035, PCN ALD-036)

The programs which build and print the several ASL and PLL item listings during the monthly stock record support cycle were found to be correct in the use of system control tables and the Customer Information and Control File

(CICF) and in extracting data from the Demand Master File. The content of print columns are extracted from the appropriate fields of the various files. Change lines are correctly identified and report totals are accumulated accurately.

6. Demand Analysis Summary (PCN ALD-027)

These reports correctly accumulate statistics during the weekly demand update cycle. The number of level changes, the reasons for the changes, and the stock fund and non-stock fund dollar value increases or decreases are summarized by storage site. The totals column for materiel category is accurate. Stratification of data by authority code follows the systems specification and the roll-up for the "Totals for All Categories" is correct.

7. Demand Analysis Error and Exception Listing (PCN ALD-025)

The Exception Listing has been verified to ensure that the errors or exceptions being reported are valid rejections and that the reason for rejection as given on the listing accurately reflects the condition which caused the rejection.

The following discrepancies were noted:

a. The exception listing included rejections that the manager cannot correct and reenter, although the rejection reasons are valid. These rejections include:

- (1) Demand cancellations (generated by the system) for demands older than the thirteen month period that is maintained on the Demand Master File.
- (2) In-transit receipt confirmations (to record DSS Order Ship Time) when the Demand Master File Record is a fringe memo and so contains no DSS Order Ship Time data entry.
- (3) Generated level header records when there is no matching Demand Master Record. Supply Control Study Requests for which there is no demand record generate level header records (presumably

to zero the ABF retention level). These records are then recycled to the demand process where they reject with the message "no record in demand file".

While these discrepancies are minor, they tend to reduce confidence in the accuracy of the report. Coding to suppress these print lines is provided in Appendix A, page A-6.

b. When a report request is rejected because the stock number has been changed, the message "STOCK NR CHANGED TO (new stock number)". However, the new stock number shown on the listing is incorrect. (The number is correct on the Demand Master File but is incorrectly printed on the report.)

Coding to correct the listing of the new stock number is provided in Appendix A, page A-29.

#### 8. Stratified ASL - Forecast Annual Dollar Volume (PCN ALD-216)

The Stratified ASL report is correct and the contents of the report are valid. The program has been verified in detail for all file accesses, price computations, MACRO table usage, algorithms, mathematical accuracy of totals, etc. The data elements used in the totals are comparable to the Quarterly Stratification Report AFAO Issue Requirement totals for recurring demands, except that the forecast demand rate is used rather than the normal demand rate.

The report selects only recurring demands for those items that are demand supported (by non-DSS demands). The forecast dollar volume includes DSS and non-DSS recurring demands. The forecast demand rate is computed according to systems specifications and then multiplied by 12 and by unit price.

In the forecast demand rate computations:

$$\frac{(\text{Two-Minus-Alpha}) \times \text{normal demand rate} - \text{Adjustment Factor} \times \text{trended demand rate}}{(\text{One-Minus-Alpha})}$$

both the normal demand rate and the trended demand rate contain DSS and non-DSS data. For this reason, the distortion of forecast demand rate as described in paragraph 3.1.4 does not occur and the forecast volume is correct for the total of DSS and non-DSS demands. (Since DSS demands are included, the forecast volumes cannot be related to forecast stockage requirements.)

## 3.2 QUARTERLY STRATIFICATION REPORT OF SECONDARY ITEMS (PCN ALB-099)

### 3.2.1 General

The programs and the files which produce the Stratification Report were analyzed in detail and found to be substantially correct. A program discrepancy in the computation of AFAO Issue Requirements is described in paragraph 3.2.3. The file entries are discussed in greater detail in paragraph 3.1, Demand Analysis.

### 3.2.2 Detailed Verification

1. The programs which extract and prepare data for the Stratification Report are accurate with one exception (see paragraph 3.2.3). The Availability Balance File, the Due-In File, the Direct Delivery File and the Demand Master File are defined and accessed correctly for the retrieval of the required data elements.

2. The stratification programs are correct in initialization of data fields, price extension for dollar value, rounding logic and techniques, roll-up techniques, stratification sequence, building sort fields and print lines, algorithms for logistical ratios and computation of deficits.

3. Data for AFAO Issue Requirements entries are the result of summing the unit demand rates from the Demand Master File (DMF). The cutoff date is controlled to fall on the last day of the quarter. Projections of demands are calculated by multiplying the accumulated demand rates by the number of months: 12 months for the budget year; 6, 9, 12 or 15 months for the apportionment year in accordance with AR 710-1.

4. Memorandum demand entries at the bottom of the page are compiled from the (monthly) demand rate multiplied by three.

5. Demand Rates are accumulated from the DMF as follows:

- a. If the ABF stockage List Code (SLC) is 'Z' or blank the demand is added to "nonstockage demands".

- b. If the demand is non-recurring DSS or non-recurring non-DSS (and not SLC 'Z') it is added to "non-recurring demands".
- c. If the demand is recurring DSS or recurring non-DSS (and not SLC 'Z'), it is added to "recurring demands".

6. The demand rates in the unit records of the DMF have been verified in detail. (See paragraph 3.1). The only possibility of discrepancies in demand rates is related to minor errors in the processing of demand cancellations. These errors will probably cause a slight inflation of the non-recurring demand rate, since valid cancellations of non-recurring demands are sometimes rejected from processing. There is also a possibility (more remote) that recurring demands are sometimes erroneously cancelled, reducing the recurring demand rates.

7. There has been no evidence of invalid balances in the Availability Balance File (ABF).

a. Since a unit of issue discrepancy between the Availability Balance File and the Demand Master File does not inhibit the accumulation of demands, unit of issue discrepancies could cause minor invalidities in the reported AFAO issue requirements. Unit of issue discrepancies could also cause minor invalidities in the levels used in computing the requirements (Column 1, RQMTS/RTN) because levels cannot be updated when there is a unit of issue discrepancy.

b. Assets in the ABF SCOP 6 ('inventory in suspense') are not stratified. These assets are added only to line 1 (Assets, Stratification Data) and line 8, with lines 8a or 8b, (Local Excess). (A large volume of unresolved SCOP 6 segments could cause invalid excess totals and possibly invalid deficits in the Stratification Report.)

c. The unit price used in the computations of dollar value is taken from the ABF without regard to the unit price as shown on the DMF.

#### 7. Logistics Ratios

The demand rates which are applied to RO (non-DSS) requirements are the same demand rates used in computing AFAO Issue Requirements (non-DSS + DSS).

a. Assets to Requirements

Since all Direct Delivery records including DSS, are added to both due-in and due-out (either stocked or non-stocked) at a ratio of 100 percent assets to requirements, the logistics ratio will tend to increase toward 100 percent when there is a high volume of DSS records on file.

As the volume of DSS activity increases, the logistical ratio (assets to requirements) for Stock Due-Out will not reflect replenishment requirements for stockage list items. As a hypothetical example:

(1) ratio excluding DSS records

$$\frac{\text{on hand} + \text{due in}}{\text{requirements}} = \text{logistical ratio}$$

$$\frac{\begin{array}{c} \text{OH} \quad + \quad \text{DI} \\ 5 \quad + \quad 10 \\ \hline 30 \\ \text{RQMTS} \end{array}}{30} = \frac{15}{30} = 50\%$$

(2) ratio including DSS records

$$\frac{\text{on hand} + \text{due-in} + \text{DSS due-in}}{\text{Requirements} + \text{DSS due-out}}$$

$$\frac{\begin{array}{c} \text{OH} \quad + \quad \text{DI} \\ 5 \quad + \quad 10 \\ \hline 30 \\ \text{RQMTS} \end{array} + \begin{array}{c} \text{DSS-DI} \\ 200 \\ \hline 200 \\ \text{DSS-DO} \end{array}}{30 + 200} = \frac{215}{230} = 93\%$$

Note: The Logistics Ratio (assets to requirements) for the total "RO RECUR DMDS-4B, D, E, F1" is a true "RO" ratio because DSS data is excluded.

b. Requirements to Average Monthly Demand

Both DSS and non-DSS demands are included in the "Average Monthly Demand Rate" which is applied to requirements (RO) pertaining to non-DSS demands. The ratio of requirements to average monthly demands is therefore considerably lower than it would be if only non-DSS demand rates were applied. As a hypothetical example:



- (1) ratio including DSS recurring demands

operating level requirements = 33,540

monthly recurring demand rate = 167,700

$$\frac{RQMT}{AMD} = .2$$

- (2) ratio excluding DSS recurring demands

operating level requirements = 33,540

monthly recurring demand rate = 5,590

$$\frac{RQMT}{AMD} = 6$$

### 3.2.3 Program Discrepancy

Program P90ALB correctly reads the first ten unit demand detail records from the Demand Master File (DMF) and separately accumulates non-stockage demands, non-recurring demands and recurring demands. Obligated stocks (ownership purpose D, E, and K) and unit turn-ins are excluded. Where there are more than ten demand detail records, the subsequent demand detail records are contained in a series of continuation records. In reading and processing these continuation records, the program does not access the lines of coding which classify stockage/non-stockage items, recurring/non-recurring demands, and excludes obligated stocks and turn-ins. All detail records (including obligated stocks and turn-ins) following the initial ten detail records are added into the total for non-recurring demands for stockage items.

The volume of DMF continuation records (for stock numbers with more than ten detail demand records) is not known. However, in the sample Item Data Reports collected during the current study, continuation records are relatively numerous. It should be noted also that if turn-in records are present, they will appear at the end of the detail records and so would always appear in the continuation record if continuation has occurred.

In summary:

1. The non-recurring demand totals and the AFAO Issue Requirements totals are being inflated to an unknown extent by the addition of turn-in rates.
2. Non-stockage demands and recurring demands are being added into the total for non-recurring demands. In this case, the total Requirements line is not affected.

The program coding to correct this discrepancy is shown in Appendix B.

#### 3.2.4 Summary

1. The data presented in part one of the Stratification Report accurately represents the data in the ABF and the stratification process is correctly performed. If any of the ABF levels are invalid due to ABF/DMF unit of issue discrepancies, minor invalidities can occur in the requirements totals (column 1). Since the correction of unit of issue discrepancies is in progress, the SAG has directed that a detailed analysis of catalog data processing is not required in the current study.

2. The AFAO Issue Requirements are distorted to an unknown extent by several programming errors.

a. The Stratification program sometimes classifies non-stockage demands and recurring demands as non-recurring demands and sometimes adds turn-ins to the non-recurring demands, erroneously inflating the issue requirements. Program coding corrections are provided in Appendix B.

b. The Document History programs sometimes generate erroneous cancellation records. (See paragraph 3.1.2). These records undoubtedly inflate the non-recurring demand rate for AFAO Issue Requirements and possibly reduce the recurring demand rate. Program coding corrections are provided in Appendix A, pages A-38, A-52 and A-55.

### 3.3 SECONDARY ITEMS PERFORMANCE REPORT (PCN ALB-092)

#### 3.3.1 General

The programs and the files which produce the Secondary Items Performance Report were analyzed in detail and found to be substantially correct. There is a program logic error in the Demand Satisfaction computation which invalidates the Demand Satisfaction percentages shown on the Performance Report (see paragraph 3.3.4). The method of differentiation between DSS and non-DSS transactions (by project code) may also contribute to data discrepancies (see paragraph 3.3.2.2).

#### 3.3.2 Detailed Verification

1. Several hundred Document History File printouts were examined in relation to Performance Reporting. The data entries pertaining to the Performance Report are essentially correct and are properly accessed and processed by the Performance Report programs. The Stockage List Code (used to differentiate between stocked and non-stocked items in Section I of the report) is accurately maintained in the Document History and no discrepancies were found between the ABF, Document History and Demand History stockage list codes. (However, discrepancies are possible in cases of unit of issue discrepancies.)

#### 2. DSS versus non-DSS

The Supply Performance Program classifies transactions as non-DSS or DSS on the basis of the first two characters of the project code. 'NS' and 'XD' are used to identify DSS. (Unit Type Code is not carried on the Document History File.)

The accuracy of the classification is important in the determination of demand accommodation and demand satisfaction because DSS transactions must be excluded from these computations. Classification of DSS requisitions as non-DSS requisitions will erroneously decrease the percentages of demand accommodation and demand satisfaction which are shown on the performance report.

A sample of the 253 Document History File (DHF) records was screened to test the validity of using the first two characters of the project code to identify DSS units.

The findings were as follows:

- a. project code correctly classified unit type as shown on CICF

DSS	27
non-DSS	<u>25</u>
Total	52

- b. project code did not correctly classify unit type as shown on CICF

DSS	189
non-DSS	<u>12</u>
Total	201

A history of changes to unit type code in the CICF was not available for study, but it does not seem likely that all of these discrepancies could result from changes to unit type code.

Recent SAILS documentation indicates that systems changes are being made to eliminate the use of project code in identifying DSS and non-DSS transactions and it is possible that changes are already in progress to improve the accuracy of the classification in supply performance reporting.

3. The Performance Programs are accurate in the arithmetic processes of accumulating totals, subtotals, calculating percentages, and computing elapsed days. The matrices for accumulating the report data are exact in design, filled correctly and unloaded properly. A logic error in the Demand Satisfaction Computation is described in paragraph 3.3.4. There is no evidence of discrepancies in the other entries of the Performance Report.

### 3.3.3 Demand Accommodation

The Demand Accommodation percentages which appear on the Performance Report indicate that Demand Accommodation is significantly low. The computation has been analyzed for accuracy of programming, accuracy of input data, and system discrepancies which could lower the demand accommodation rate.

#### 1. Supply Performance Program

There are no program errors in the computation of demand accommodation. The percent of accommodation is computed as:

100 (non-DSS requisitions for stockage items minus rejections in the same category) divided by non-DSS total requisitions for stocked and non-stocked items minus rejections in the same category.

The count of requisitions is taken from line 04A2 of the Performance Report and the count of rejections is taken from line 07A2.

Line 04A2 includes all requisitions received during the report period, excluding duplicates (reentry requisitions) and excluding requisitions open in stock control.

Line 07A2 includes requisitions with EPC 70 which are not open in stock control.

#### 2. Accuracy of Input Data

a. There is no evidence of discrepancies in the Document History records which are used to produce the demand accommodation percentages. The classification of stockage and non-stockage was correct in all the records that were verified. In addition to requisitions that are immediately cancelled because of EPC 70, EPC 70 is internally assigned to all requisitions with Manager Entry Code "6" (rejection by manager).

b. There is a possibility that the classification of DSS and non-DSS records on the basis of project code is causing a decrease in the computed percentage. Of the 216 DSS records sampled, 189 would have been classified as non-DSS on the basis of project code. (See paragraph 3.3.2.2).

### 3. Low Accommodation

During the course of the current study it has been determined that items qualified as demand supported may not be stocked under certain conditions. It is not known at this time whether any of these conditions have actually occurred.

a. Invalid formatting of cancellation records could erroneously reduce the number of recurring demands for an item, with the possibility of removing the item from stockage (see paragraph 3.1.2.2).

b. A large number of low priority DSS demands for a non-PLL item could erroneously increase the criteria for number of non-DSS demands required to stock the item. (See System Control SSS\_).

c. A large volume of DSS demands for an item could remove the item from stockage if the forecast demand rate computation is activated by sufficient non-DSS demands (see paragraph 3.1.4.3).

#### 3.3.4 Demand Satisfaction

##### 1. Requirements for Computation

The demand satisfaction computation, as specified in the systems documentation, represents the percentage of non-DSS customer requisitions for stockage items which were at least 90 percent filled on initial issue processing. The following transactions should be excluded from the computation:

- DSS requisitions
- Requisitions for non-stockage list items
- Rejected requisitions
- Requisitions still open in stock control

##### 2. Program Error

When selecting the requisitions to be excluded from the Demand Satisfaction computation, an erroneous program statement excludes any requisition for which there is no Materiel Release Order (MRO). For this reason, the percentage shown on the Performance Report is actually:

100 x MRO's for 90 percent or more fill  
total MRO's for the report period

(MRO's for backorder release are included in the computation).

The program changes to correct this discrepancy are minimal. A suggested change to exclude requisitions open in stock control (rather than all requisitions without an MRO) and to exclude MRO's for backorder release are given in Appendix C.

### 3. Evaluation of Demand Satisfaction

Due to the program error described above, the Demand Satisfaction percentages which appear on the Performance Report are extremely high and give no indication of actual Demand Satisfaction.

#### a. Accuracy of Input Data

The findings that apply to the Demand Accommodation computation (see paragraph 3.3.3.2) apply also to the Demand Satisfaction computation.

(1) The input data entries from the Document History File appear to be correct, including the stockage/non-stockage classification and identification of rejected transactions.

(2) The use of project code to differentiate DSS/non-DSS requisitions may cause distortions in the computation.

#### b. Discrepancies Affecting Demand Satisfaction

(1) During the course of the current study it has been determined that levels may be erroneously reduced under certain conditions, with the probability of a corresponding reduction in demand satisfaction.

(a) It is possible for operating level to be erroneously reduced by the processing of invalid cancellation transactions (see paragraph 3.1.2.2).

(b) It has been observed from output reports that safety levels are being reduced or eliminated when there are DSS demands for stockage items (see paragraph 3.1.4.4).

(c) Operating levels will be erroneously reduced if there are sufficient non-DSS demands to activate the forecast demand rate computation and there are also DSS demands for the item. (It is not known whether this condition has actually occurred.)

(d) Unit of issue discrepancies between the ABF and the DMF could cause invalid low levels to be retained because recomputed levels cannot be processed.

(2) There is less evidence to indicate that the RO is being erroneously increased (without contributing to Demand Satisfaction).

(a) RO's have been computed in support of DSS mission essential items where no non-DSS demands occurred. However, the SAG has stated that this problem is already being corrected.

(b) If there are a large volume of high priority DSS demands for a non-PLL item, the criteria for number of non-DSS demands required to stock the item could be erroneously reduced, allowing stockage of the item which would not otherwise occur. (See System Control SSS\_).

(c) Unit of issue discrepancies between the ABF and DMF can cause an inflated RO because recomputed levels cannot be processed.



### 3.4 DOCUMENT HISTORY FILE

The Document History File was verified in regard to all records affecting demand recording and supply performance reporting. The file is essentially correct. The following data entries were verified in detail:

#### 1. Stockage List Code

This code is used to designate stockage/non-stockage items for the Performance Report. The code appeared to be correct in all records analyzed.

#### 2. Priority Code

This code is used to segregate totals for the Performance Report. Since the Performance Report program has no "fall through" coding, the count would be invalid if there were errors in the priority code; however, no errors were detected.

#### 3. Dates

Document Number Date is used in Demand recording and Cycle Date is used in Supply Performance Reporting. No evidence of discrepancies was detected.

#### 4. DSS/Non-DSS

Since the Document History File does not contain a specific code to differentiate DSS from non-DSS, the project code field is being used for this purpose in Supply Performance Reporting. There is some evidence to suggest that this classification is causing invalid input to Performance Reporting. (See paragraph 3.3.2.2.)

Since recent documentation indicates that P02ALD (Demand Analysis) was changed in SCP05 to identify DSS and non-DSS by means other than project code, it is possible that the Performance Report discrepancy has already been corrected).

#### 5. Demand Code

Demand Code is correctly recorded in the Document History File. Where Demand Code is blank (as in A0's reconstituted from Materiel Release Denials) the blank demand code does not invalidate any of the processing analyzed during this

study. (The demand code is not always correctly applied in the formatting demand reversals, but coding changes to correct this discrepancy are given on page A-38.)

#### 6. Demand Indicator

The logic of passing records to the demand analysis subsystem is correct and the Demand Indicator Code is correctly set and reset for demands and complete cancellations. There is a minor discrepancy in resetting the indicator for partial cancellations; sometimes it is reset to zero and sometimes not. It is recommended that the indicator be reset to zero for all cancellations (since there is no convenient way to keep a running total of partial quantities) and the coding changes for cancellation processing given in Appendix A follow this recommendation.

#### 7. Quantities

No evidence of quantity discrepancies was detected.

#### 8. Stock Number

The stock number in the Document History Base Record is the stock number for which the demand was recorded. Normally, this is the requested number, or "new" catalog stock number, regardless of the issue of a substitute. However, if the requisition was referred to the manager without recording the demand (EPC on the control file) and the manager reenters the requisition under a substitute/preferred stock number, the reentry stock number will overlay the original stock number on the Base Record.

#### 9. Unit of Issue

The Document History unit of issue does not always agree with the Demand Master File unit of issue. When this condition occurs, all demands and demand reversals for the stock number will be rejected by the Demand History Subsystem.

### 3.5 SUMMARY OF FINDINGS

#### 1. General

The SAILS AB(X) processes reviewed in the current study consist of extensive and complex design and program coding which, in general, maintain a high degree of accuracy in support of stock control activities, the recording of demands, the computation of requisitioning objectives and the preparation of unit stock record support. There are a few distortions to levels computations resulting from (1) minor program errors or discrepancies, and (2) the inclusion of DSS demand data in selected data fields. The output reports contain several discrepancies due to (1) minor program errors or discrepancies, and (2) the inconsistent inclusion/exclusion of DSS data.

#### 2. Discrepancies in Levels Computations

- a. Erroneously generated cancellations could reduce demand rates, reduce requisitioning objectives and even delete items from the stockage list.
- b. Where unit of issue discrepancies have occurred between the ABF and the DMF, levels computed by DAS are rejected and the ABF levels may be unrealistically high or low.
- c. Requisitioning objectives are sometimes generated for DSS mission essential items, creating stockage requirements which are unrelated to actual needs.
- d. Items with a very low shelf life could be assigned operating levels which exceed the shelf life of the item.
- e. The forecast (trended) demand rate is invalid if there are DSS demands for the item. For high demand items (more than 98 demands per year) the operating level could be reduced or the item could be eliminated from the stockage list when there are DSS demands for the item.
- f. When average issue priority is used to determine the number of demands required to add/retain, the stockage decisions will be distorted if there

are DSS demands for the item. It would be possible for items to be added or retained with insufficient demands and to be deleted when there are sufficient demands to qualify.

g. Nearly every factor used in the computation of safety level will be distorted if there are DSS demands on file for the item. The effect on the Safety Level will vary but the strongest tendency will be to lower or eliminate safety level for items with a high rate of DSS demands.

h. Retention Level may be erroneously reduced if non-DSS demands exceed 98 per year and there are also numerous DSS demands for the item.

i. Order Ship Time Level will be distorted if DSS data is present because DSS data affects the selection of Safety Category Code, which is used in computing OST levels.

### 3. Report Entries

#### a. DA Item Data Report, PCN-ALD-028

The report correctly prints data from the Demand Master File.

(1) The following entries cannot be related to stockage requirements when there are DSS demands for the item which is being reported:

Normal Demand Rate

Trended Demand Rate

Demand Rate Variance

Number of Demands

Sum of Priorities

Current Quantity of Demands

Number of Demands in 360 Days

Date of First Demand

Date of Last Demand

(2) The following entries are incorrectly set:

Demands against Safety Level

Safety Level Failure

Criteria Failure

Safety Category Code - Computer (always '9')

b. Supply Control Study - Demand History Data (PCN ALB-A09)

The report is essentially correct.

(1) The following entries cannot be related to stockage requirements when there are DSS demands for the item which is being reported:

Date of Last Demand

Forecast Annual Demand

Issue Last 12 Months

Non-Recurring Demand Rate (includes DSS) versus Non-Recurring Demand Frequency (excludes DSS)

Percent Trend

Percent Variance

Average Priority

Levels Reason (reason may be "demand qualified" because of DSS demands when requisitioning objective is zero)

c. Unit Data Report (PCN-ALD-023)

The report is correct but the totals of "recurring demands" cannot be related to stockage requirements when DSS demands are included.

d. Stratified ASL - Forecast Annual Dollar Volume, PCN-ALD-216

The report is accurate in forecasting the annual dollar volume of combined DSS and non-DSS demands.

e. Demand Analysis Error and Exception (ALD-025)

The report is correct except that:

(1) This listing includes rejects of internally generated transactions which cannot be corrected by manager input and are of no interest to the manager.

(2) In the stock number change message, the new stock number is incorrectly printed.

f. Quarterly Stratification Report, Part B (ALB-099)

Except for the AFAO Issue Requirements, the entries in this report are computed correctly from the appropriate file data. The AFAO Issue Requirements are inflated to an unknown extent by a program error which sometimes adds turn-ins to the Issue Requirement.

g. Demand Analysis Summary (PCN-ALD-027)

The totals appear to be correct. (No programming errors were detected.)

h. Secondary Items Performance Report (ALB-092)

With the exception of the Demand Satisfaction percentage, the entries in this report are computed correctly from the appropriate file data. The Demand Satisfaction entry is invalid due to a program error.

i. ASL/PLL Reports (ALD-035, ALD-036)

The reports appear to be correct. (No programming errors were detected.)

j. The following reports, also used during the current study, showed no evidence of data discrepancies:

ISD Research List (ALB-001)

Transaction Register (ALB-002)

Batch Inquiry List (ALB-007)

Processed Transactions Not On Transaction Register (ALB-009)

Transaction Pre-Edit (ALB-016)

Demand Analysis System Controls (ALD-026)

Extracted Document History Records by Document Number (ALB-226)

Code Table File List (ALA-234)

Edited Selected Transactions for Manager Review (ALB-012)

Supply Control Study - ABF Data (PCN ALB-A09)

### 3.6 MISCELLANEOUS ADDITIONAL FINDINGS

The following findings, though not specifically a part of the systems audit, were observed during the course of the study and are included for consideration.

a. Materiel Release Denials

Customers are not being credited in the Financial Ledger for the value of Materiel Release Denials.

It was stated at the SAG meeting that Finance is aware of the problem and corrective action is in progress. No further action is required in the current study.

b. The User Procedures (particularly TM38-L03-16) are oriented to the system designer rather than to the system user. Complex processing details of little value to the user are emphasized but simple instructions for analysis of output reports and implementation of management decisions are not provided.

c. The maintenance of commonly used data elements, such as catalog data, in numerous separate files, increases the possibility of report discrepancies and systems failure. For example, unit of issue discrepancies between the ABF, DHF, and DMF cause a breakdown in levels updates.

d. The tape-oriented processing concept contributes to workload and scheduling problems, particularly in respect to the necessity of recycling records; for example, stock number changes in the Demand Analysis Subsystem.

e. Changes are sometimes made to one program within a subsystem but not to related programs. For example, Program P04ALD correctly counts only non-DSS demands in determining demand qualification. Program P03ALD, however, counts all demands and so cycles a large volume of unnecessary "demand qualified" Supply Control Study Requests to P04ALD. The Supply Control Study is suppressed, but the recycling of the extraneous levels computations substantially increases the processing workload.

f. High priority DSS requisitions can be filled from stockage levels which are maintained for the support of non-DSS requisitions only. In case of

mobilization or other emergency, stock for normal routine items could be rapidly depleted by DSS requisitions.

g. A copy of request number 1259, Program P04ALDAC, which was included in the program documentation received in support of the SAILS AB(X) Audit indicates that an additional levels computation requirement is being imposed; that is, the use of "System Controls LPCN and LPOS to identify local purchase items and SCDX to identify non-DSS items" (by Supply Class Designator). When the item is designated as local purchase or "non-DSS", both the DSS and the non-DSS demands will be used in the levels computation; however, the program listings verified during the audit did not include any changes pertaining to the new requirement, and the evaluation is based on the listings which were provided for the study.

h. The manually prepared CSGLD-1438 being forwarded to FORSCOM does not reflect the computer-generated values for the CSGLD-1438. The Installation is making adjustments to the computer-generated dollar value entries in order to comply with instructions received from FORSCOM.



## SECTION 4 - CONCLUSIONS

### 4.1 SYSTEM

The SAILS AB(X) system as audited, with the exception of the discrepancies noted in this report, is comprehensively designed and accurately programmed to meet the functional requirements as stated in the SAILS documentation and should be able to continue to meet these requirements for the immediate future. However, the system as designed is basically a second-generation tape-oriented system which lends to errors being introduced each time there are changes. Therefore, it is believed that a replacement system employing the latest concepts and technologies is required.

### 4.2 USER PROCEDURES

Many of the problems that were observed in the functioning of the system were caused, not by the system itself, but by the inability of the system users to thoroughly understand and make efficient use of the user procedures.

### 4.3 DEMAND ANALYSIS

The maintenance of the data base for Demand Analysis (which requires extensive and complex design and programming) is extremely accurate. Where only non-DSS data is recorded, the levels computations and output report entries are also correct. Although program coding changes have been suggested (see Appendix A), the discrepancies which have been noted are minor. However, the accuracy of the levels computations and the corresponding report entries is being distorted in some cases by the presence of DSS data. This type of discrepancy cannot be rectified prior to a thorough reevaluation of DSS processing requirements.

### 4.4 QUARTERLY STRATIFICATION REPORT

The Stratification Report totals expressed in dollar values correctly represent the corresponding ABF entries expressed in terms of quantities. However, a program error is causing discrepancies in the computation of AFAO Issue Requirements.

Users find it necessary to make adjustments to the computer listing in preparing Report GSLD-1438 for forwarding to Headquarters, FORSCOM. The nature of these adjustments and the reconciliation with financial records are not within the scope of the current study.

#### 4.5 SECONDARY ITEMS PERFORMANCE REPORT

There is an obvious error in the computation of demand satisfaction which decreases user confidence in the validity of this report; therefore, managers are not using the report for its intended purpose. However, the report entries other than "demand satisfaction" correctly represent the system file data.

## SECTION 5 - RECOMMENDATIONS

It is recommended that:

- The program changes provided with this study be implemented as soon as possible. The three most important changes are:
  - (1) Corrections to invalid demand reversal transactions (Programs P50ALB and P69ALB, Appendix A).
  - (2) Corrections to discrepancies in AFAO Issue Requirements, Quarterly Stratification Report (Program P90ALBZJ, Appendix B).
  - (3) Corrections to the Demand Satisfaction computation, Secondary Item Performance Report (Program P11ALBZA, Appendix C).
- Consideration be given to revising the User Procedures to provide the managers with better instructions for the use of the system.
- All Demand Analysis systems controls be reviewed on a routine basis and periodically updated as necessary. In particular, the Commodity Constant and the Minimum Buy should be subject to review with regard to changing economic conditions.
- A study be initiated to determine why it is necessary to adjust the computer generated data for the preparation of the SGLD-1438 report.
- Once program changes are made to the Supply Performance Report to ensure the accuracy of the data entries, the managers should be encouraged to use the report for its intended purpose.
- In view of the findings in this report, the methods for including the DSS concept in SAILS be reevaluated. As a temporary expedient prior to the reevaluation, consideration should be given to changing Demand Systems Controls such as PMV\_, TRND and TMS\_ to eliminate the use of average priority and demand trend from stockage determinations.

**EXHIBTT 1**

**SAILS REVISED SCHEDULE**

	ACTIVITY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
		13 WEEKS			8 WEEKS			7 WEEKS			23 WEEKS		
PHASE I	1. REVIEW SAILS DOCUMENTATION 2. REVIEWS (E) & PREPARE SVD'S	2	4	6	8	10	12	14	16	18	20	22	24
PHASE II	3. TRACE REQUISITIONS (D)												
	4. EXAMINE STOCK PROCESSES (G)												
	5. EXAMINE DEMAND ANALYSIS (F)												
	6. EXAMINE SAILS OUTPUT REPORTS (H)												
PHASE III	7. FORMULATE HYPOTHESES & TEST PLANS												
	8. PREPARE FOR SAG I												
	9. CONDUCT SAG I												
PHASE IV	10. REVISE TEST PLANS, BASED ON SAG I												
	11. CONDUCT HYPOTHESES TESTS												
	12. FORMULATE RECOMMENDED CORRECTIVE ACTION												
	13. DRAFT FINAL REPORT												
	14. DELIVER DRAFT REPORT												
	15. REVIEW DRAFT REPORT												
	16. PREPARE FOR SAG II												
	17. CONDUCT SAG II												
	18. RECEIVE COMMENTS TO DRAFT REPORT												
	19. SUPPORT REVIEW												
	20. INCORPORATE COMMENTS TO FINAL DRAFT REPORT												
	21. DELIVER FINAL REPORT												
ALL	22. PREPARE AND DELIVER WEEKLY STATUS AND MONTHLY PERFORMANCE AND COST REPORTS												

SAILS REVISED SCHEDULE

4/21/78

EXHIBIT 1

## **EXHIBIT 2**

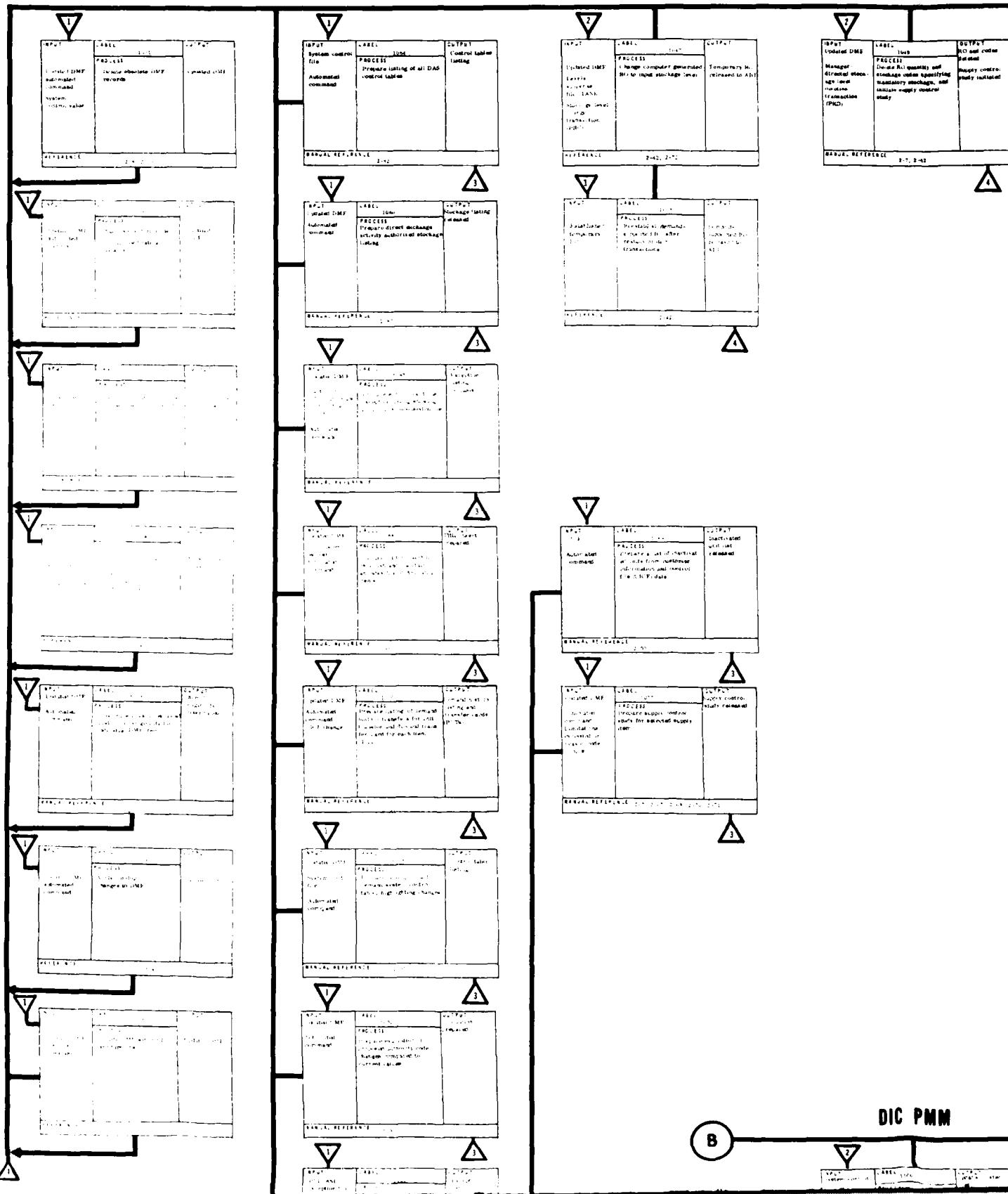
### **SYSTEM VALIDATION DIAGRAMS**

**The following System Validation Diagrams were prepared from SAILS documentation for use as a guideline in the analysis and validation of the SAILS AB(X) Demand Analysis System.**

# SAILS DEMAND ANALYSIS SYSTEM

## ITEM MGT

## DAS OUTPUT

**DIC PRC****DIC PRD**

# DIC PRD

INPUT	LABEL	OUTPUT
Updated DMG	1048	ACT and color printed
Manager - directed message level violation transaction (PRD)	PROCESS Create 80 quantity and package codes specifying mandatory messages, and include supply control study	Supply control study initiated

MANUAL REFERENCE

3-7, 3-8

# DIC PAA/PAC PLA/PLC

INPUT	LABEL	OUTPUT
Updated DMG	1048	ACT and color printed
Manager - directed message level violation transaction (PLA/PLC)	PROCESS Exclusion item package using control variables or customer control parameters	Customer ACT PLC

REFERENCE

3-7

# DIC PMH OR PRA

INPUT	LABEL	OUTPUT
Updated DMG	1048	ACT and color printed
Maximum 100	PROCESS Maximum 100	Maximum 100

MANUAL REFERENCE

3-7

# DIC PRA

INPUT	LABEL	OUTPUT
Updated DMG	1048	ACT and color printed
Maximum 100	PROCESS Maximum 100	Maximum 100

MANUAL REFERENCE

3-7

# DIC PMM

INPUT	LABEL	OUTPUT
Updated DMG	1048	ACT and color printed
Maximum 100	PROCESS Maximum 100	Maximum 100

MANUAL REFERENCE

3-7

# DIC ZBJ

INPUT	LABEL	OUTPUT
Updated DMG	1048	ACT and color printed
Maximum 100	PROCESS Maximum 100	Maximum 100

MANUAL REFERENCE

3-7

# DIC ZBK

INPUT	LABEL	OUTPUT
Updated DMG	1048	ACT and color printed
Maximum 100	PROCESS Maximum 100	Maximum 100

MANUAL REFERENCE

3-7



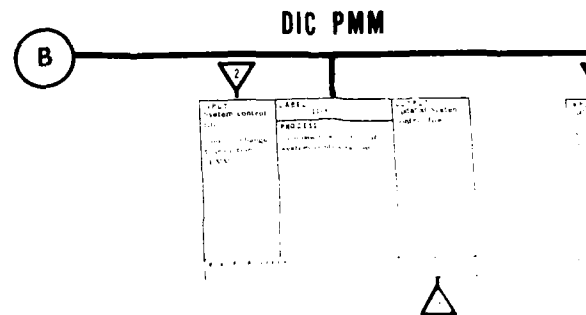
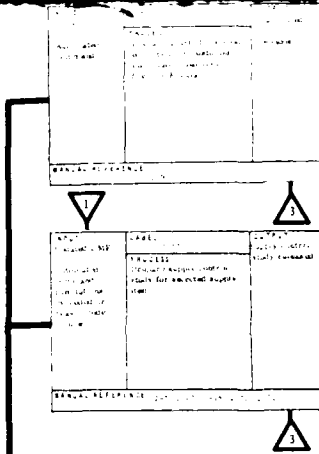
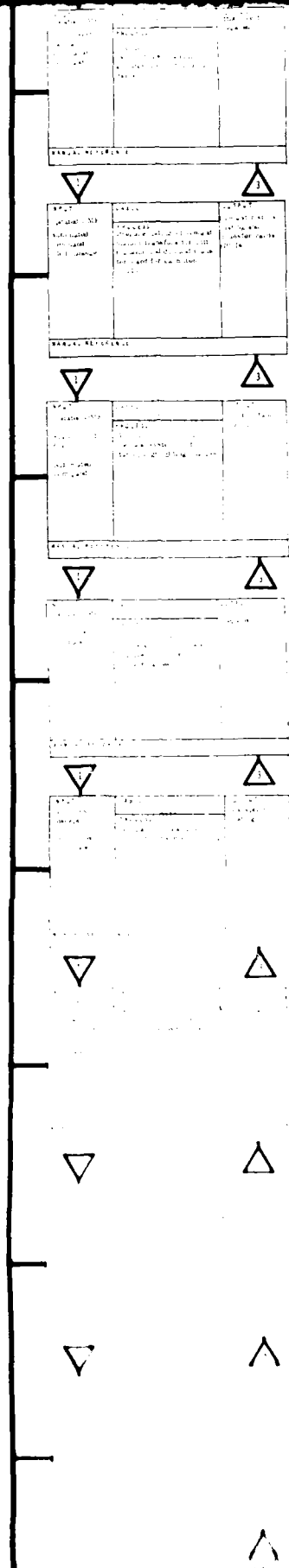
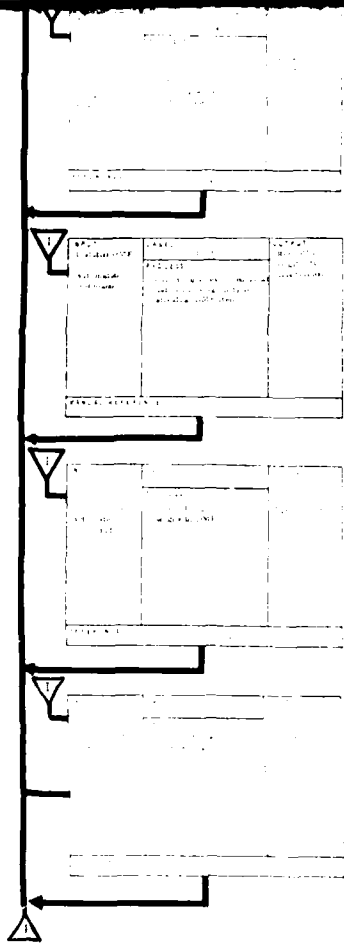
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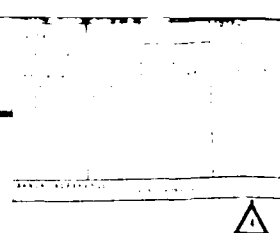
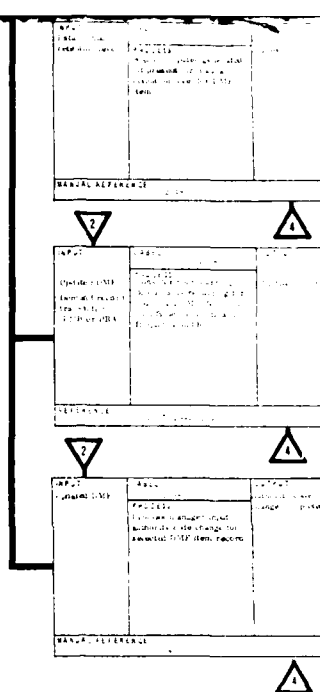
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**DIC ZBR**



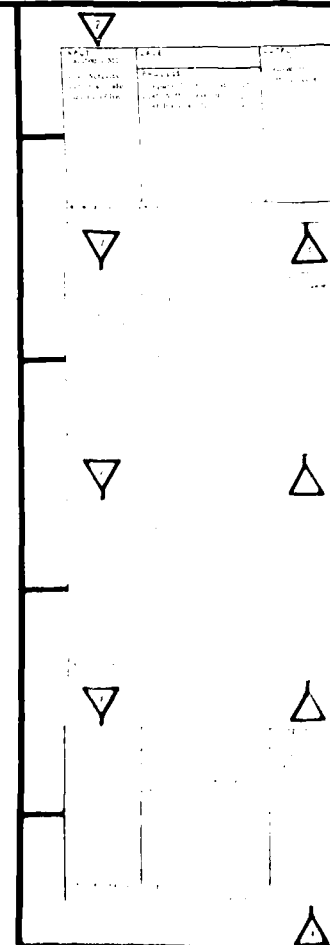
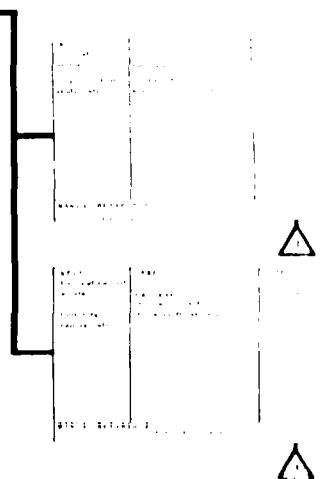
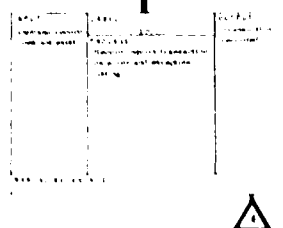
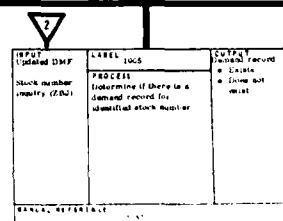
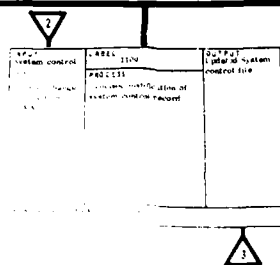




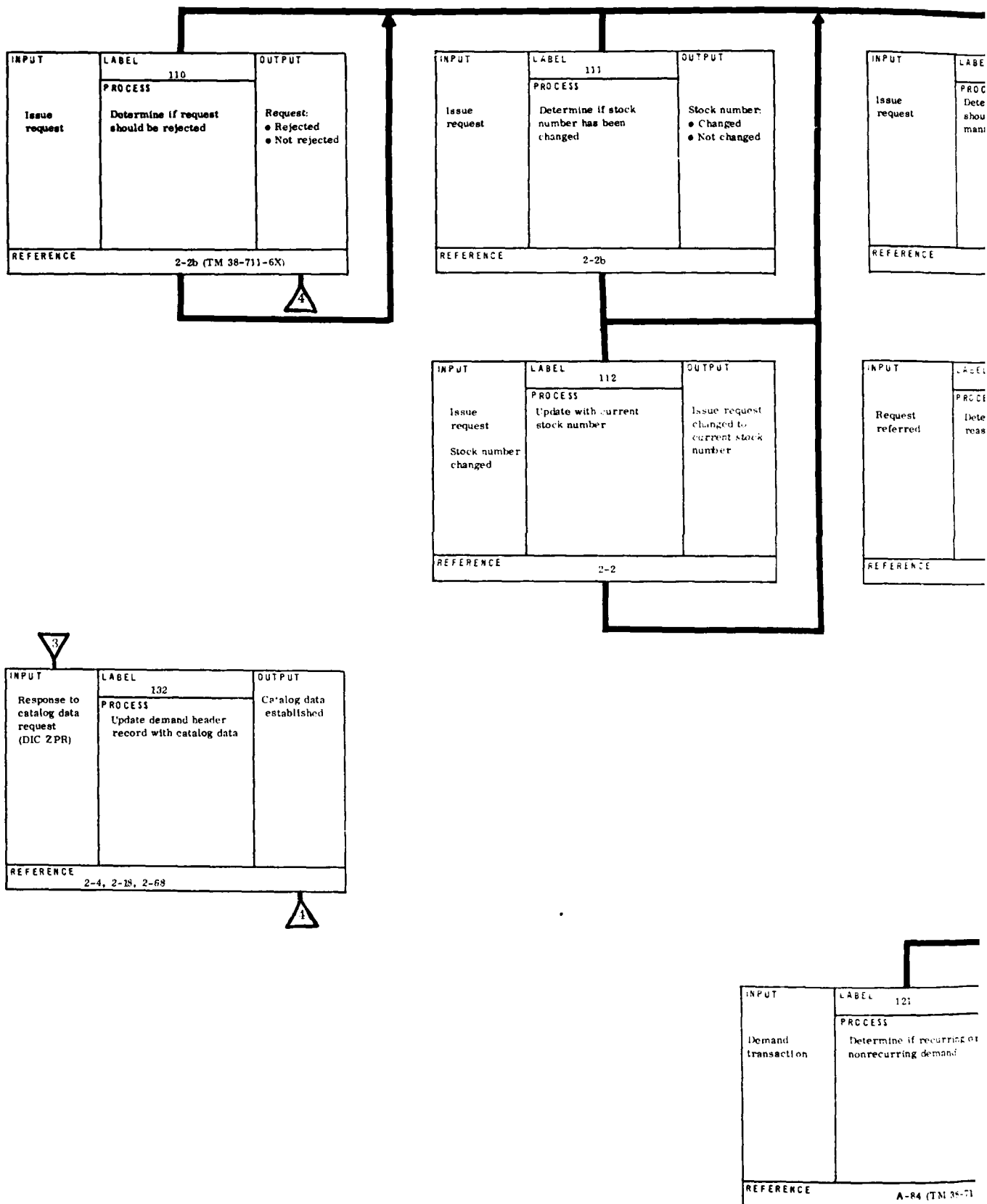
### DIC PMM

### DIC ZBJ

### DIC ZBK









# ISSUE REQUEST

## I/O LEGEND

1. ISSUE REQUEST
2. OUTPUT DATA
3. DEMAND RESPONSE
4. PROCESS TERMINATION

INPUT	LABEL	OUTPUT
Demand transaction non-recurring	122	Unit: ● DSS ● Non-DSS
	PROCESS Determine if DSS or non-DSS unit	
REFERENCE 2-5		

INPUT	LABEL	12
Demand transaction recurring demand	PROCESS	Determine if request
REFERENCE		2

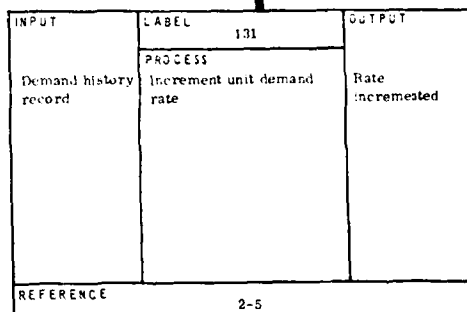
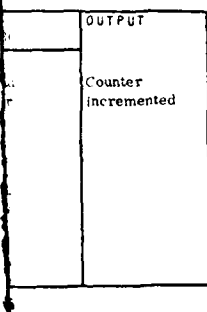
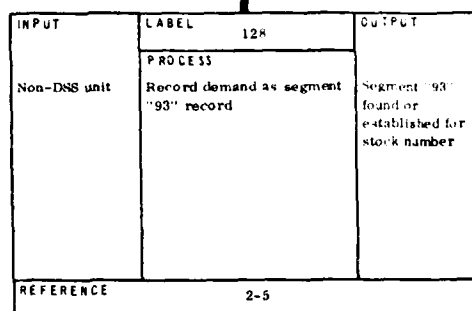
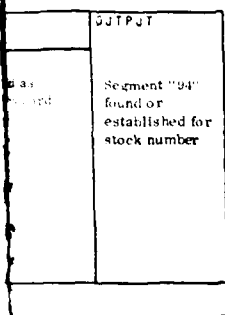
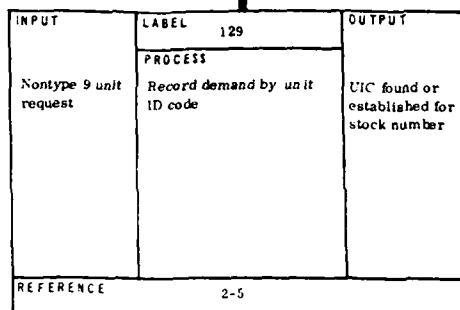
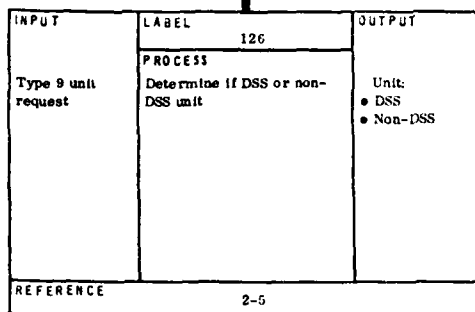
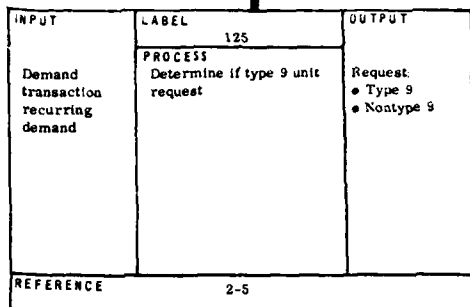
INPUT	LABEL	OUTPUT
DSS unit	123	Segment 96 found or established for stock number
	PROCESS Record demand as segment 96	
REFERENCE	2-5	

INPUT	LABEL	OUTPUT
Non-DSS unit	124	Segment 95 found or established for stock number
	PROCESS Record demand as segment 95	
REFERENCE 2-5		

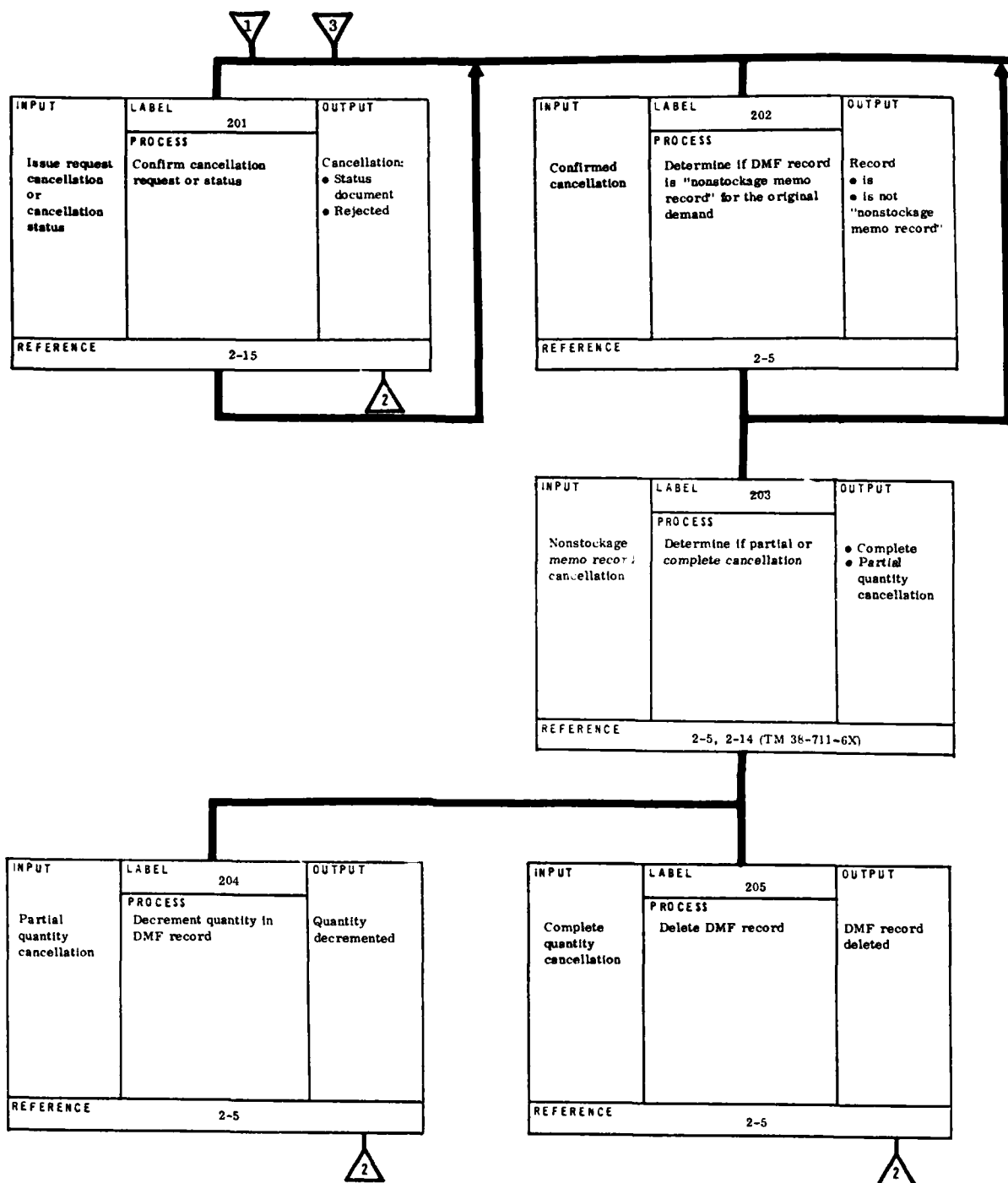
INPUT	LABEL
Type 9 unit request	PROCESS
	Determine if DSS unit
REFERENCE	

INPUT	LABEL	OUTPUT
DSS unit	127	Segment "94" found or established for stock number
	PROCESS Record demand as segment "94" record	
REFERENCE 2-5		

INPUT	LABEL	OUTPUT
Demand history record	130	Counter incremented
	PROCESS Increment demand frequency counter	
REFERENCE		







## CANCELLATIONS

### I/O LEGEND

1. ISSUE REQUEST
2. PROCESS TERMINATED
3. CANCELLATION STATUS

REFERENCE IS TO TM 38-L03-16  
UNLESS OTHERWISE INDICATED

INPUT	LABEL	OUTPUT
Confirmed cancellation	206	Demand <ul style="list-style-type: none"><li>• Recurring</li><li>• Non-recurring</li></ul>
	PROCESS	
	Determine if demand recurring or non-recurring	
REFERENCE		
2-5		

INPUT	LABEL	OUTPUT
Recurring demand cancellation	207	Type 9 unit demand <ul style="list-style-type: none"><li>• yes</li><li>• no</li></ul>
	PROCESS	
	Determine if type 9 unit demand	
REFERENCE 2-5		

INPUT	LABEL	OUTPUT
<ul style="list-style-type: none"><li>• Type 9 unit demand cancellation</li><li>• Recurring demand cancellation</li></ul>	208	Updated DMF
	PROCESS	
	Reverse demand for DSS or non-DSS unit	Decrement demand rate
REFERENCE 2-5		

INPUT	LABEL	OUTPUT
Not type 9 unit demand reversal (recurring)	209	Updated DMF
	PROCESS	
	Reverse demand against unit ID code	Decrement demand rate
REFERENCE		
2-5		

INPUT
Non- recurring demand cancellation
REFERENCE

ring  
ring

unit

INPUT	LABEL 211	OUTPUT
Confirmed cancellation	PROCESS	<ul style="list-style-type: none"><li>• Total</li><li>• Partial quantity cancelled</li></ul>
	Determine if total or partial quantity cancellation	
REFERENCE 2-5		

INPUT	LABEL 212	OUTPUT Updated DMF
Total quantity cancelled	PROCESS	Demand frequency counter decremented
	Decrement demand frequency counter	
REFERENCE 2-5		

LABEL	209	OUTPUT
PROCESS		Updated DMF
Reverse demand against unit ID code		Decrement demand rate

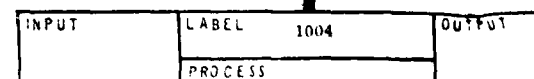
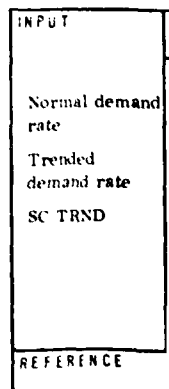
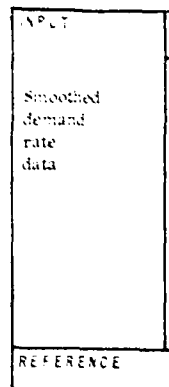
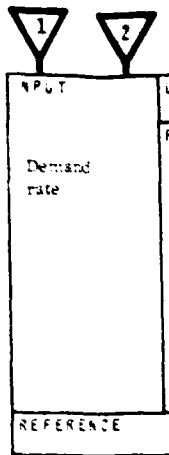
2-5

INPUT	LABEL 210	OUTPUT Updated DMF
Non-recurring demand cancellation	PROCESS	Decrement demand rate
	Reverse demand against DSS or non-DSS unit	
REFERENCE 2-5		



# SAILS DEMAND ANALYSIS SYSTEM

1. AUTOMATED COMMAND
2. DOCUMENT REQUEST
3. REPORT/LISTING/MESSAGE
4. PROCESS TERMINATION



# DEMAND SUPPORT

1 2		
INPUT	LABEL 1001	OUTPUT
Demand rate	<b>PROCESS</b> Using a smoothing factor calculate a unit demand rate for each unit or medical request code	Smoothed demand rate
REFERENCE 2-24		

INPUT	LABEL 1002	OUTPUT
Smoothed demand rate data	<b>PROCESS</b> Perform demand rate rollup to produce demand rate for next higher support echelon	Summed demand rate
REFERENCE 2-25		

INPUT	LABEL 1003	OUTPUT
Normal demand rate Trended demand rate SC TRND	<b>PROCESS</b> Apply trended demand rate to normal demand rate giving forecast demand rate  Apply SC TRND to determine fast moving items	Forecast Demand Rate Items • Slow moving • Fast moving
REFERENCE 2-27		

INPUT	LABEL 1007	OUTPUT
Demand rate for RO  Unit price  System control values: • Minimum Buy • Shelf life • Minimum EOQ • Maximum EOQ • Commodity Constant	<b>PROCESS</b> Determine EOQ operating level based on demand rate, unit price and commodity constant.  Modify operating level by minimum EOQ, maximum EOQ, minimum buy, shelf life maximum.	Operating level
REFERENCE 2-28		

INPUT	LABEL 1008	OUTPUT
System control values  Manager safety category code  Average OST OST variance	<b>PROCESS</b> Select safety category code  Determine forecast OST	Safety code  Forecast OST
REFERENCE 2-29, 2-30, 2-51		

INPUT	LABEL 1009	OUTPUT
System control values  Safety category code  Demand rate variance Forecast OST	<b>PROCESS</b> Determine safety level, OST level, applying limits.  Add safety level and OST quantity giving reorder point.  Determine supply study point from system control ASLT	Safety level OST level Reorder point Supply point
REFERENCE 2-31, 2-32, 2-33		

INPUT	LABEL 1005	OUTPUT
Fast moving items	<b>PROCESS</b> Determine demand rate for RO	Demand rate for RO

INPUT	LABEL 1010	OUTPUT
Operating level	<b>PROCESS</b> Determine requisitioning	RO

## DEMAND SUPPORTED

## NONDEMAND

INPUT	LABEL 1007	OUTPUT
Demand rate for RO	PROCESS	Operating level
Unit price	Determine EOQ operating level based on demand rate, unit price and commodity constant.	
System control values:	Modify operating level by minimum EOQ, maximum EOQ, minimum buy, shelf life maximum.	
• Minimum Buy		
• Shelf life		
• Minimum EOQ		
• Maximum EOQ		
• Commodity Constant		
REFERENCE	2-28	

INPUT	LABEL 1012	OUTPUT
System control values  Mandatory stockage items	PROCESS  Assign RO from minimum RO or STKS	RO established
REFERENCE	2-36, 2-37	

INPUT	LABEL 1008	OUTPUT
System control values	PROCESS	Safety category code
Manager safety category code	Select safety category code	
Average OST	Determine forecast OST	Forecast OST
OST variance		
REFERENCE	2-29, 2-30, 2-51	

INPUT	LABEL 1013	OUTPUT
Mandatory RO	PROCESS Apply minimum buy to RO for low priced items	Modified RO
REFERENCE 2-27		

INPUT	LABEL 1009	OUTPUT
System control values	PROCESS	Safety level
Safety category code	Determine safety level, OST level, applying limits.	
Demand rate variance	Add safety level and OST quantity giving reorder point.	OST quantity
Forecast OST	Determine supply study point from system control ASLT	Reorder point
REFERENCE	2-31, 2-32, 2-33	

INPUT	LABEL 1014	OUTPUT
Mandatory stockage items	PROCESS Determine reorder point and supply study point for mandatory stockage items	Reorder point and supply study point established
REFERENCE 2-28		

INPUT	LABEL 1010	OUTPUT
Operating level	PROCESS	RO
	Determine supply study point from system control ASLT	

REFERENCE	2-25
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INPUT	LABEL 1003
Normal demand rate	PROCESS Apply trended demand rate to normal demand rate giving forecast demand rate Apply SC TRND to determine fast moving items
Trended demand rate	
SC TRND	
REFERENCE	2-27

INPUT	LABEL 1004	OUTPUT
Slow moving items	<b>PROCESS</b> Determine demand rate for RO:  Normal demand rate + DRAQ + % nonrecurring as recurring.  Determine retention level using normal rate	Demand rate for RO
Normal demand rate		Retention quantity
REFERENCE		2-27, 2-35, 2-4R, 2-51

INPUT	LABEL 1006
Demand rate for RO • Zero • Nonzero Fixed RO SLC Q M P S Z	<b>PROCESS</b> Select demand supply (RO not zero, SLC Select mandatory stockage (SLC M, P or fixed RO) Prepare levels update for nonstockage items
REFERENCE 2-36	

## LEVELS COMPUTATION

2-25

LABEL 1003

OUTPUT

## PROCESS

Apply trended demand rate to normal demand rate giving forecast demand rate

Apply SC TRND to determine fast moving items

Forecast Demand Rate

Items

- Slow moving
- Fast moving

2-27

INPUT

LABEL 1005

OUTPUT

## PROCESS

Fast moving items

Forecast demand rate

Determine demand rate for RO:

Forecast demand rate + DRAQ + % nonrecurring as recurring

Determine retention level using forecast rate

Demand rate for RO (forecast)

Retention quantity (forecast)

REFERENCE

2-27, 2-35, 2-48, 2-51

LABEL 1006

OUTPUT

## PROCESS

Select demand supported (RO not zero, SLC Q)

Select mandatory stockage (SLC M, P, S or fixed RO)

Prepare levels updates for nonstockage items

Items

- Demand supported
- Mandatory stockage

Levels released for nonstockage items

2-38

OST variance

REFERENCE

2-26, 2-30, 2-51

INPUT

LABEL 1009

OUTPUT

## PROCESS

System control values

Safety category code

Demand rate variance

Forecast OST

Determine safety level, OST level, applying limits.

Add safety level and OST quantity giving reorder point.

Determine supply study point from system control ASLT

Safety level

OST quantity

Reorder point

Supply study point

REFERENCE

2-31, 2-32, 2-33

INPUT

LABEL 1010

OUTPUT

## PROCESS

Operating level

Reorder point

Determine requisitioning objective (RO) using reorder point and operating level quantities

RO established

REFERENCE

2-34



OST variance		
REFERENCE 2-29, 2-30, 2-51		

REFERENCE 2-27		

INPUT	LABEL 1009	OUTPUT
	PROCESS	
System control values	Determine safety level, OST level. pplying limits.	Safet, level OST quantity
Safety category code	Add safety level and OST quantity giving reorder point.	Reorder point
Demand rate variance	Determine supply study point from system control ASLT	Supply study point
Forecast OST		
REFERENCE 2-31, 2-32, 2-33		

INPUT	LABEL 1014	OUTPUT
	PROCESS	
Mandatory stockage items	Determine reorder point and supply study point for mandatory stockage items	Reorder point and supply study point established
REFERENCE 2-28		

INPUT	LABEL 1010	OUTPUT
	PROCESS	
Operating level	Determine requisitioning objective (RO) using reorder point and operating level quantities	RO established
Reorder point		
REFERENCE 2-34		

INPUT	LABEL 1011	OUTPUT
	PROCESS	
DMF new levels	Prepare levels updates for basic cycle	Levels released
	Prepare selected supply control studies according to systems criteria	Supply control studies printed
REFERENCE 2-7, 2-18		



### EXHIBIT 3

#### LIST OF REPORTS, FILES, AND PROGRAM LISTINGS USED IN SYSTEM AUDIT OF SAILS AB(X)

##### A. Output Reports used in SAILS AB(X) Audit

<u>PCN</u>	<u>Title</u>
ALB-001	ISD Research List
ALB-002	Transaction Register
ALB-007	Batch Inquiry List
ALB-009	Processed Transactions Not on Transaction Register
ALB-A09	ABF Display/Supply Control Study
ALB-016	Transaction to Pre-Edit
ALD-023	Unit Data Report
ALD-025	Demand Analysis Error and Exception Report
ALD-026	Demand Analysis System Controls
ALD-027	Demand Analysis Summary
ALD-028	Demand Analysis Item Data Report
ALB-092	Secondary Items Performance Report
ALB-099	Quarterly Stratification of Secondary Items, Part B
ALB-226	Extracted Document History Records by Document Number
ALA-234	Code Table File List
ALB-012	Edit Selected Transactions for Manager Review
ALD-036	Direct Support Unit Authorized Stockage List
ALD-035/036	ASL/PLL (Title varies)
ALD-216	Stratified ASL - Forecast Annual Dollar Volume

### EXHIBIT 3

B. File Dumps Used in the System Audit of Sails AB(X)

<u>File ID</u>	<u>File Name</u>
X03ALD	Demand Master File
A5EALB	Demand Analysis Input File
Y22ALB	Due-In File
Z22ALB	Due-Out File
Y46ALC	INT/SUB File
X50ALB	Document History File
X15ALA	Code Tables File
X22ALB	Availability Balance File
X46ALC	Cross-Reference File
X14ALA	Customer Information and Control File

### EXHIBIT 3

#### Demand Analysis Program

#### C. Program Listings Used in System Audit of SAILS AB(X)

<u>Program ID</u> <u>Version Number</u>	<u>Scope</u>
P02ALD P02DAD04	Extracts the supply records that pertain to Demand Analysis and reformats them for input to DAS.
P03ALD P03DZD04	Performs partial file maintenance of the DMF. Updates the System Control File. Extracts records to be used later for computing new stockage levels and for producing Supply Control Studies.
P04ALDAC P04DAB04	The primary control for Supply Control Studies (SCS), selection of reports data, and selection for computation and recomputation of the levels. . . . Calls P04ALDBC.
P04ALDBC P04DBC04	Computes levels using data (passed by P04ALDAC) and putting the computed levels in LVLS-RECORD (in P04ALDAC's working storage).
P05ALD A, B, C, D P05DAC04 P05DBC02 P05DCC02 P05DDB02	Reads the sorted supply control study file and prepares the system control listing, the unit data report, the PLL-ASL exception list and the error list.  Consists of 4 modules, P05ALDA (driver); P05ALDB (SCS and summary totals print images); P06ALDC (print/punch format); and P05ALDD (ZPH, ZPS, ZPR output transactions and re-entry records).
P10ALD P10DAA04 P10DBA04 P10DCA04 P10DLA05	Performs monthly update of the DMF and extracts data for preparation of Stock Record support functions (SRS).
P11ALD P11DAC04	Formats cards and listings providing SRS.
P22ALD P22DZB05	Accumulates dollar volume statistics for stratification report.

### EXHIBIT 3

#### Main Balance Process

<u>Program ID</u> <u>Version Number</u>	<u>Scope</u>
P22ALBAF P22BAA04	Control overlay module. Reads and writes Standard Transaction Reformatted (STR). Calls other modules.
P22ALBBF P22BBA04	Opens files, calls CTF tables, writes CTF tables, closes files.
P22ALBCF P22BCF04	Update ABF headers, storage site segments and SCOPs. STRs processed in this module are those that must be acted upon before normal actions can occur in the following modules.
P22ALBDF P22BDF04	Processes supply, shipment, and cancellation type status. Updates ABF, DUE-IN, DUE-OUT files.
P22ALBEF P22BEF04	Processes normal supply type adjustment transactions. Updates ABF, DUE-IN, DUE-OUT files.
P22ALBFF P22BFF04	Processes receipt/issue transactions for other than on post customers. Updates ABF, DUE-IN, DUE-OUT files.
P22ALBGF P22BGF04	Processes manager directed requisitions, issues, and back order releases. Updates ABF, DUE-IN, DUE-OUT files.
P22ALBHF P22BHF04	Releases due-out records based on change in asset position and when challenged by customer requisitions. Customer requisitions are processed based on issue and secondary action requirements. Updates ABF, DUE-IN, DUE-OUT files.
P22ALBIF P22BIF02	Processes NICP and PURA referrals.
P50ALB P50BZA04	Updates DHF daily and O/T daily cycle. (Outputs demand TXs). Types of cycles: Basic, Weekly Cross Level, Replenish, Excess Trigger, Monthly File Maintenance, Weekly Demand Master.

### EXHIBIT 3

#### Main Balance Process (Cont'd)

P69ALB P69BZP04	Validate each transaction for duplicate, reconstructs (A0_) as required, gives immediate status to customers, and eliminates cancellation from Balance processing. Generates documents to release/constrain Due-Outs. Disposes of excess materiel.
P90ALB P90BZJ04	Performs stratification of assets under accountability of...installations ...by accumulating, extracting and displaying basic supply data to relate assets to requirements in a specific priority/time sequence. (Quarterly Stratification of secondary items.)
P57ALC P57CZF04	Sorts monthly catalog change files: major stock number (ascending) minor DIC first 2 (descending) minor DIC third (ascending)
P59ALC P59CAA04 P59CBA04 P59CCA04 P59CDA04	Updates ABF catalog header: adjusts OH, summary DI, summary DO for stock number and/or UI changes. Adjusts stockage levels.
P60ALC P60CZF04	Merges 'Demand Error and Unmatched Demand' and 'DMD & ERR Invalid DIC NO PSN'  Output: 'ABF Update Demand,' 'ABF Update Demand Errors.'
P64ALC P64CZF04	Purges ABF headers that have been designated deletes.

### EXHIBIT 3

#### Cataloging Programs

<u>Program ID</u> <u>Version Number</u>	<u>Scope</u>
P46ALCA P46CAC04	Controls processing between overlay phases. Handles output file processing for the error reports file and XREF changes file. Allocates the common working-storage areas.
P46ALCB P46CBC04	Reads or updates ABF, INT/SUB, and XREF. Adds or deletes records on INT/SUB and XREF.
P46ALCC P46CCC04	Contains initialization functions.
P46ALCD P46CDC04	Processes merged CMDF valid changes and G8-ABF errors.
P46ALCE P46CEC04	Contains all INT/SUB delete routines.
P46ALCF P46CFC04	Initial editing of INT/SUB and XREF changes.
P46AALCG P46CGC04	Contains... automatic generation of the reverse relationship for all INT/SUB add transactions. Initial validation for file conflicts prior to processing any INT/SUB adds. Calls module H.
P46ALCH P46CHC04	Posts the prime relationship to the INT/SUB file.
P46ALCI P46CIC04	Processes all XREF changes.

### EXHIBIT 3

#### Reports

<u>Program ID</u> <u>Version Number</u>	<u>Scope</u>
PK7ALB PK7BZA04	Extracts data on repaired material for use in quarterly reports.
P11ALB P11BZA04	Extracts document history records that pertain to the Backorder Reconciliation list and the Supply Performance Report.
P12ALB P12BZF04	Prints Precost Detail Listing, Unobligated Purchase Request Listing, Due-Out Reconciliation List, Back Order Listing.
P13ALB P13BZF04	Prints Supply Performance Report.
P94ALB P94BZA14	Writes purified ABF.
P90ALB P90BZJ04	Extracts records for preparation of Stratification Reports.
P92ALB P92BZJ04	Writes Quarterly Stratification Report.
P03ALL P03ALL09	Edits all input transactions against depot and condition code.
PJ2B00 PJ2B0004	Separates input transactions into daily cycle and financial. Prints ALB-016, "Transactions to PRE-EDIT by Stock No. , Document No."
P08ALBC P08ALBCK04	Validates keypunch for all basic cycle transactions. Calls edit modules P08ALB - D, E, S, F, G, H, J, R, K, L, M, N to edit field contents.



# EXHIBIT 4

1 of 4

## MINUTES OF SAG (SAILS) MEETING, APRIL 17, 1978

<u>I. Problems Identified</u>	<u>Action - Computer Sciences Corp.</u>	<u>Action - DA</u>
<p>1. <u>Substitute Items:</u></p> <p>Demand Cancellations are erroneously generated when:</p> <ul style="list-style-type: none"> <li>a) a substitute item is received on a passing action</li> <li>b) the manager forces the backorder release of a substitute item</li> </ul>	<p>Analyze program listings to determine the cause of the error. Describe input, current processing, results of current processing, desired results and corrective action required.</p>	<p>Provide the required program listings. (Listings have been provided with the exception of Document History Update, P50ALB)</p>
<p>2. <u>Valid Demand Cancellations</u> contain erroneous data entries:</p> <ul style="list-style-type: none"> <li>a) non-recurring demands are sometimes cancelled as recurring demands</li> </ul>	<p>Analyze program listings to determine the cause of the error. Describe input, current processing, results of and corrective action required.</p>	<p>Provide the required program listings. (Listings have been provided with the exception of Document History Update, P50ALB)</p>
<ul style="list-style-type: none"> <li>b) Partial cancellations are sometimes coded as complete cancellations.</li> </ul>	<p>Analyze program listings. Describe input, current processing, results of current processing, desired results and corrective action required.</p>	<p>This problem has very low priority for corrective action. (The required program listings have been provided)</p>
<p>3. <u>Demand Error Reports</u> contain conditions which cannot be corrected by users.</p>	<p>Analyze program listings. Describe input, current processing, results of current processing, desired results and corrective action required.</p>	<p>(The required program listings have been provided)</p>
<p>4. <u>Demand Report prints data incorrectly.</u></p>	<p>Analyze program listings. Describe input, current processing, results of current processing, desired results and corrective action required.</p>	<p>(The required program listings have been provided)</p>
<ul style="list-style-type: none"> <li>a) Invalid "new stock number" on exception list ALD-025.</li> </ul>	<p>a) Verify from the program listings that non-recurring DSS demands are excluded from RO computations.</p>	<p>(The required program listings have been provided)</p>
<ul style="list-style-type: none"> <li>b) The Supply Control Study excludes non-recurring DSS demands from the non-recurring</li> </ul>		

# EXHIBIT 4

## MINUTES OF SAG (SAILS) MEETING, APRIL 17, 1978 (Continued)

2 of 4

I. Problems Identified	Action - Computer Sciences Corp.	Action - DA
demand frequency but includes them in the non-recurring demand rate.	b) Make recommendations for corrective action and for revisions to the report format.	(The required program listings have been provided)
c) Supply Control Studies are generated with a levels reason of "demand qualified," but with SLC "Z" and zero RO.	Analyze the program listings. Describe the current processing and the corrective actions required to suppress the Supply Control Study and the RO computations for this condition.	(The required program listings have been provided)
d) The Item Data Report reflects that obsolete unit records for UTC "D" and "4" are not being deleted, that the totals include both DSS and non-DSS data and that failure flags and safety category code are not updated correctly on the DMF.	Analyze the program listings. Describe the current processing and the corrective action required, particularly in regard to the possible distortion of levels computations due to the inclusion of DSS data (average issue priority and demand rate variance). (An in-depth analysis for the update of failure flags is not required at this time.)	(The required program listings have been provided) The incorrect update of failure flags is a known problem but has very low priority. Specification of the criteria for the update of failure flags requires further consideration and development.
5. Unit of Issue and Price Discrepancy between ABF and DMF; transactions rejected in ABF process, accepted in DMF.	The findings in this area will be described in the final report. No additional action is required.	The problem has been identified and corrective action is in progress.
6. RO's are computed for DSS mission essential items.	The findings in this area will be described in the final report. The final report will also include a summary analysis of the current program instructions for both DSS and non-DSS mission essential items. No additional action is required.	The problem has been identified and corrective action is in progress.

EXHIBIT 4

MINUTES OF SAG (SAILS) MEETING, APRIL 17, 1978 (Continued)

3 of 4

<u>I. Problems Identified</u>	<u>Action - Computer Sciences Corp.</u>	<u>Action - DA</u>
7. Entries in the MSOL Table (Maximum Months of Supply in Operating Levels for Shelf Life items) are not operative for items with a very low (or very high) shelf life.	<p>a) The findings in this area will be described in detail in the final report.</p> <p>b) The program listings will be analyzed for possible errors in the RO computation if the EOQA minimum operating level is set to zero.</p> <p>c) Alternative program logic, which will activate MSOL Table entries for very low shelf life items without changing the EOQA table, will also be provided.</p>	(The required program listings have been provided)
8. Customers are not being credited in the Financial Ledgers for the value of Materiel Release Denials.	<p>The findings in this area will be described in the final report. No additional action is required.</p>	Finance is aware of the problem and corrective action is in progress.
9. The Monthly/Quarterly Secondary Items Performance Report and the Quarterly Stratification Report of Secondary Items contain misleading data.	<p>a) Request copies of the additional program listings required for the analysis.</p> <p>b) Review the program listings to determine that the correct data entries are being used and that processing calculations are correct.</p> <p>c) Verify, where applicable, that both reports extract data from the same source fields.</p>	<p>a) Provide additional program listings to be requested by CSC.</p> <p>b) Provide, for informational purposes, a copy of the proposed revisions to the report processing programs (e.g., the inclusion of data for substitute items).</p>

EXHIBIT 4

MINUTES OF SAG (SAILS) MEETING, APRIL 17, 1978 (Continued)

4 of 4

II. Additional Actions

1. CSC will provide a copy of the narrative used in the preparation of the SVD's.
2. CSC will provide a revised activity schedule based on the requirements specified by the SAG.

III. Attendees:

<u>Name</u>	<u>Organization</u>
Col. K. A. Jocemore	HQ DA DALO/SMS
LTC. Norman Horne	USACSC
LTC. F. C. Marr	HQ DA DALO/PLS
Robert Schraidt	HQ DA DALO/SMS
Walter Belknap	HQ DA DALO/SMS
Nicholas J. Baker	TRADOC
G. A. Boyd	USALC
William T. Cowan, Jr.	HQ FORSCOM (AFLG-LSS)
Donald Feeney	HQ DA (OTSG)
Frank Ford	USALC
Ralph Ganninger	HQ DA DALO/RMI
Barry W. McDaniel	HQ DA DALO/PLS
P. S. Finney	CSC
Roy Kilpatrick	CSC
Hugh Mann	CSC
Dorothy Swearingen	CSC

## EXHIBIT 5

### OPERATING LEVEL FOR VERY LOW UNIT PRICE

Exhibit 5 shows the operating levels computed for very low priced items with low demands rates, using a commodity constant of 30.

The large fluctuations in operating levels related to small changes in demand rate are evident. It is also shown that a minimum buy of \$1.20 does not function to overcome these fluctuations.

Since demand rates are automatically "aged", drastic reductions in quantitative RO's have been observed when there have been no demands for the item in a period as short as two weeks.

(The operating level is checked against the minimum EOQ but the minimum EOQ for low demand rates will also be too low to overcome these fluctuations.)

EXHIBIT 5. RELATIONSHIP OF UNIT PRICE AND DEMAND RATE TO OPERATING LEVEL  
(COMMODITY CONSTANT = 30) -PAGE 1 OF 2

OR UP	0.05	0.10	0.15	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.25	1.50	2.00	3.00	5.00
0.5	94.87	67.03	54.77	47.43	38.73	33.54	30.0	27.39	25.35	23.72	22.36	21.21	18.97	17.32	15.0	12.25	9.49
0.7	112.3	79.37	64.31	56.13	45.83	39.69	35.45	32.40	30.0	28.06	26.46	25.10	22.45	20.49	17.75	14.49	11.22
0.9	127.28	90.0	73.48	63.64	51.96	45.0	40.25	36.74	34.02	31.82	30.0	28.46	25.46	23.24	20.13	16.43	12.73
1.1	140.71	99.50	81.24	70.36	57.45	49.75	44.50	40.62	37.61	35.18	33.17	31.46	28.14	25.69	22.25	18.17	14.07
1.3	152.97	108.16	88.31				48.37					34.21			24.19	19.75	15.30
1.5	164.32	116.19	94.87	82.16	67.08	58.09	51.96	47.43	43.92	41.08	38.73	36.74	32.86	30.0	25.98	21.21	16.43
1.7	174.93	123.69	101.0				55.32					39.12			27.66	22.58	17.49
1.9	184.93	130.76	106.77				58.48					41.35			29.24	23.87	18.49
2.1	194.42	137.47	112.25	97.21	79.37	68.74	61.48	56.12	51.96	48.61	45.83	43.47	38.88	35.50	30.74	25.10	19.44
2.3	203.47	143.87	117.47				64.34					45.50			32.17	26.27	20.35
2.5	212.13	150.0	122.47				67.08					47.43			33.54	27.39	21.21
2.7	220.45	155.88	127.28				69.71					49.30			34.86	28.46	22.05
2.9	228.47	161.55	131.91				72.24					51.09			36.13	29.50	22.85
3.1	236.22	167.03	136.38	118.11	96.45	83.52	74.70	68.19	63.13	59.06	55.68	52.82	47.24	43.13	37.35	30.50	23.62

AD-A194 767

SYSTEM AUDIT OF THE STANDARD ARMY INTERMEDIATE LEVEL

2/3

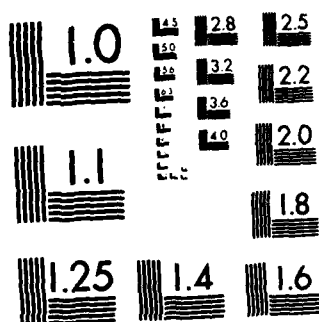
SYSTEM (SAILS) AB(X)(U) COMPUTER SCIENCES CORP  
HUNTSVILLE AL SEP 78 DRAC39-76-N-9235

UNCLASSIFIED

F/G 15/5

NL





MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A



EXHIBIT 5. RELATIONSHIP OF UNIT PRICE AND DEMAND RATE TO OPERATING LEVEL  
(COMMODITY CONSTANT = 30)-PAGE 2 OF 2

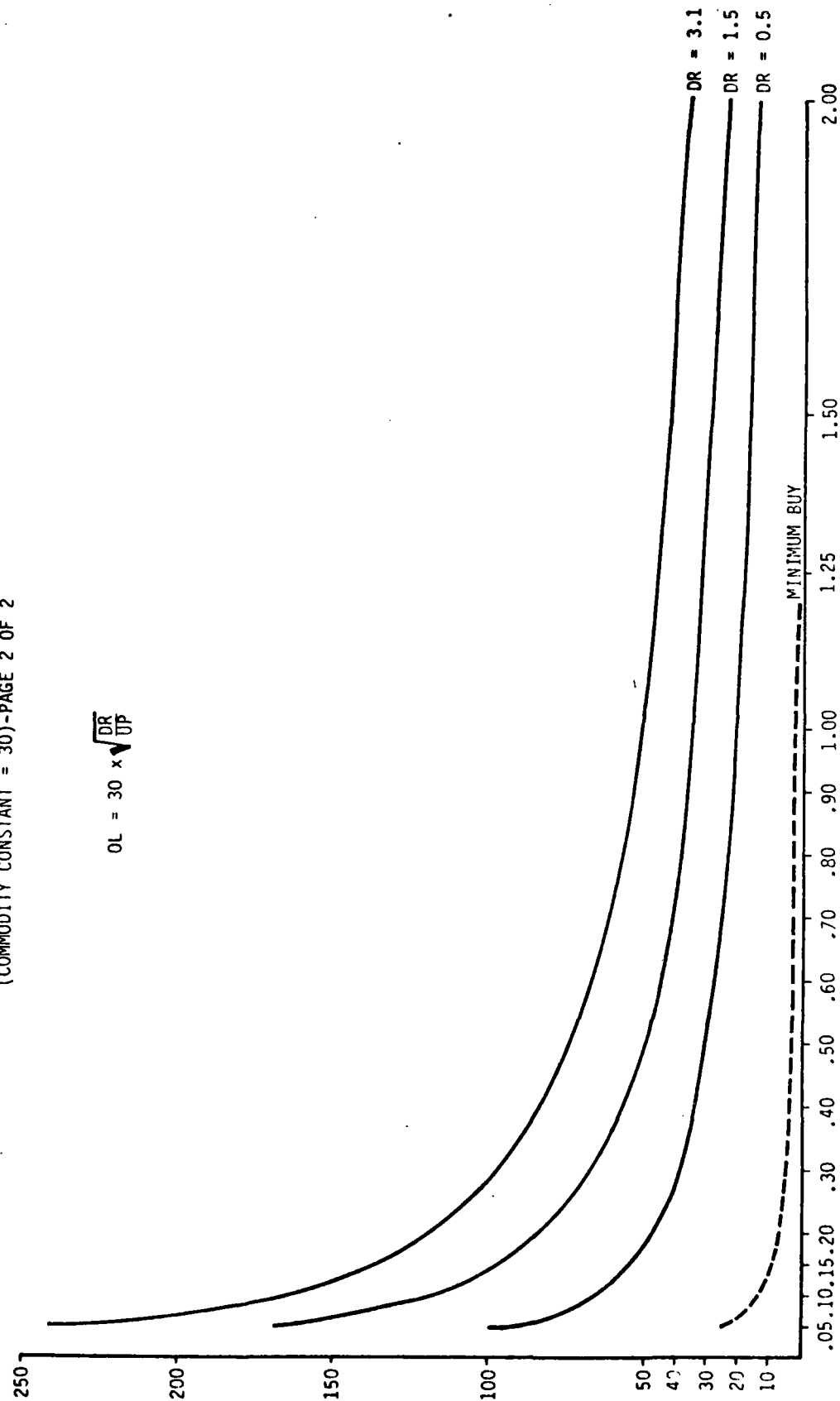


EXHIBIT 6  
FORECAST DEMAND RATE

Exhibit 6 shows the relationship between the normal demand rate, the forecast demand rate and the trended demand rate. The "normal" demand rate has been arbitrarily varied for illustration purposes.

At month 1, the normal demand rate is stable. The trended demand rate and the forecast demand rate are therefore equal to the normal demand rate; that is, there is no trend.

Month 2 shows an unrealistic increase in the normal demand rate for illustration only. The trended demand rate increases but reacts more slowly than the normal rate. The normal demand rate exceeds the trended demand rate and the forecast demand rate predicts a sharp increase in the demands (upward trend).

Months 3, 4, 5 and 7 show that when the normal rate does not change, both the forecast rate and the trended rate move towards the normal rate. If the normal rate continued to remain unchanged, all rates would return to agreement as in month 1.

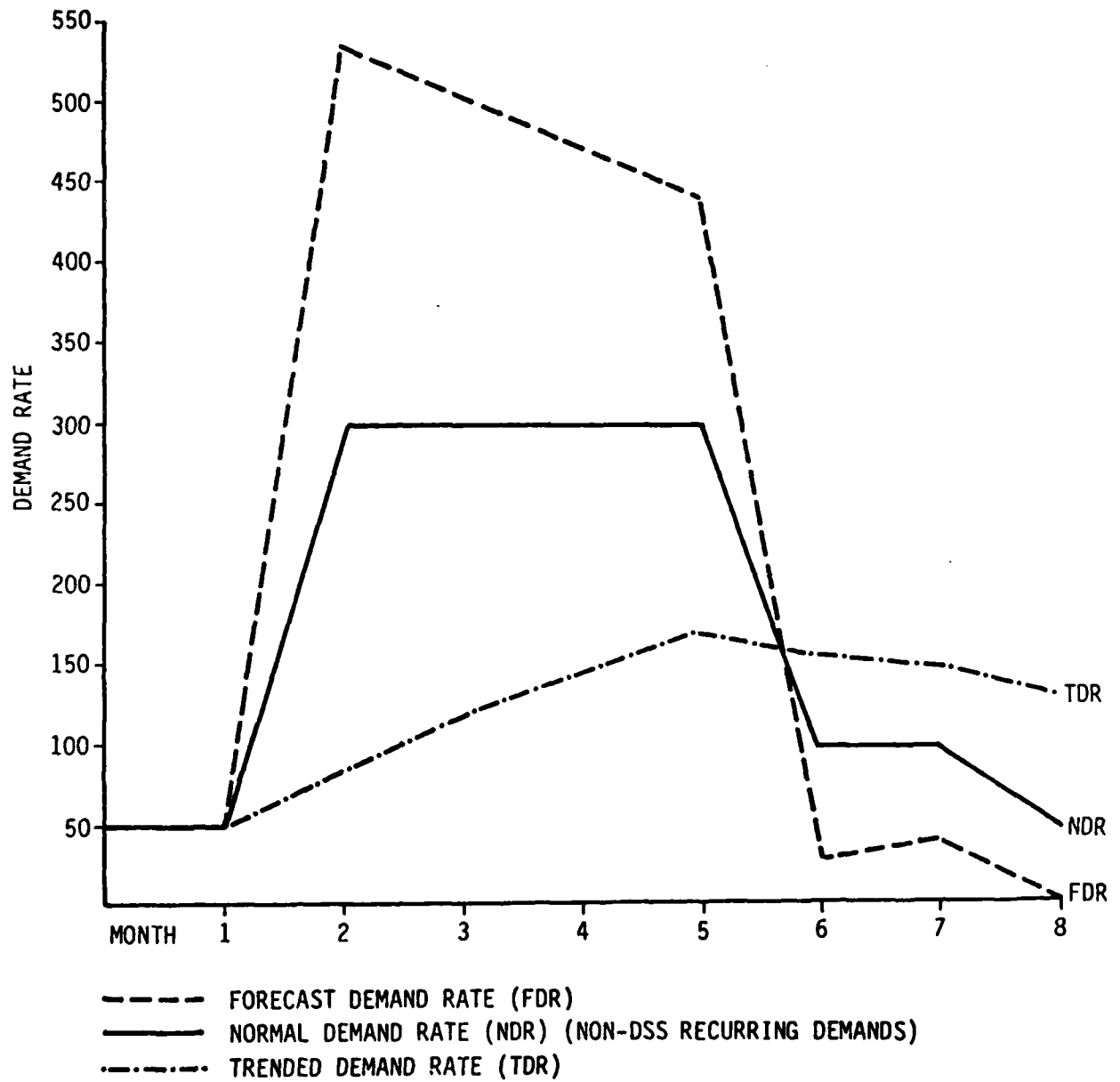
Months 6 and 8 show an unrealistic decrease in the normal demand rate for illustration only. The trended rate also decreases but reacts more slowly than the normal demand rate. The trended demand rate exceeds the normal demand rate and the forecast demand rate predicts a sharp decrease in demands (downward trend). At month 8 the predicted downward trend is so severe that a demand rate of zero is predicted, although the normal rate is again 50, as in month 1. The zero forecast rate will remove the item from the stockage list if the yearly number of non-DSS demands equals or exceeds the entry in SC TRND. In the assignment of Safety Category code, the entry in SC TRND does not apply and the forecast rate is compared directly to the normal rate. When the forecast rate exceeds the normal rate (upward trend), the requirements for safety level protection are increased. When the normal demand rate exceeds the forecast demand rate (downward trend), the requirements for safety level protection are decreased.

## EXHIBIT 6

These relationships are, of course, valid when the normal demand rate and the trended demand rate are based on the same demands. However, when the normal rate is based on non-DSS demands only and the trended rate is based on both DSS and non-DSS demands, the trended rate is artificially inflated and the forecast rate is invalid.

A genuine upward trend in non-DSS demands could be obscured. More importantly, the trended rate will tend to exceed the normal rate, predicting a downward trend where none exists. This condition will reduce the safety level protection requirements for non-DSS demand supported items if there are also DSS demands for the item. For items with a high volume of non-DSS demands (more than 98 per year) and also a high volume of DSS demands, the operating level will be erroneously reduced. If the volume of the DSS demands is sufficient to reduce the forecast rate to zero, the item will be removed from the stockage list regardless of the high volume of non-DSS demands.

EXHIBIT 6. RELATIONSHIP OF NORMAL DEMAND RATE AND  
TRENDED DEMAND RATE TO FORECAST DEMAND RATE



## **EXHIBIT 7**

### **DATA USED AS AN EXAMPLE IN PARAGRAPH 3.1.4.3.c.(2), FORECAST DEMAND RATE**

This Item Data Report and Supply Control Study display the actual data (in which the trended demand rate far exceeds the non-DSS normal demand rate) used as an example in the findings associated with Forecast Demand Rate, paragraph 3.1.4.3.c(2). The demand rates used in the example are taken from the Item Data Report.

PREPARED 78 FEB 17

DEMAND ANALYSIS ITEM DATA REPORT  
(MONTHLY JA MASTER)

PCN ALD-028

CUTOFF 78046

REQ NR 037 SWEARINGEN 2A

2900000/27900

STOCK NUMBER 2990-00-972-7950  
NOMENCLATURE STARTER RO  
UNIT PRICE \$34  
UNIT PACK QUANTITY 1  
TOTAL R/O 7  
R/O CONTROL QUANTITY 7  
MINIMUM RETENTION QTY 0  
EXPENDABILITY X  
RECOVERABILITY CODE Z  
STOCK NUMBER ID A  
BITS 01000000 00000010 10111000

RECORD ID H  
STOCKAGE LIST CODE  
UNIT OF ISSUE EA  
ESSENTIALITY  
PRICE SIGNAL CODE  
ACQ ADVICE CODE  
SHELF LIFE CODE  
PHRASE CODE  
MANAGER CODE  
PCT NON-R DEMANDS  
J

NICP  
TYPE ITEM CODE  
AUTHORITY CODE  
EX MANAGER  
MAINTENANCE-PAIR CODE  
SPEC CONTROL ITEM CODE  
MAINTENANCE-USE CODE  
OPERATING LEVEL CODE  
SUPPLY CONTROL STUDY  
MAX SCS FREQ CODE  
NUMBER OF UNITS

MCSO CODE  
AVE CST-USS  
MAX CPO SHIP TIME(IISD)  
AVE CST (IISD)  
AVERAGE CST VARIANCE  
DATE OF FIRST DEMAND  
DATE OF LAST LEVELS  
DATE LAST STUDY  
SUPPLY CLASS DESIGNATOR  
NUMBER OF STG SITES

82231  
81.6  
999  
43.4  
10.3  
76323  
78034  
78034  
R  
1

UNIT DATA

UNIT ID REQ CD PLL DT AUTH QTY MIN QTY DEMAND RATE DEMAND COUNTERS REC QTY DAYS S O S TYPE UNIT BIT CODES

WX3JUN 32.179 0313420000100 NONE 3 14099 D 00000000 00010000  
WX3JUN4 4.497 0201010000000 NONE 3 14099 2 00000000 10000000  
WX3JUN8 4.494 0002000000000 NONE 3 14099 D 00000000 00010000  
WX3JUN8 4.534 0000000100000 NONE 3 14099 D 00000000 00010000  
WX3JUN8 4.530 0001000000000 NONE 3 14099 E 00000000 00010000

STORAGE SITE DATA

INST SLC R/O NORMAL RT VARIANCE S/L UN ROP CURRENT QTY AR UMDS DMDS/SL CR FLR LAST DMD FIX EDIT  
ID MIN R/O TREND RT DRAQ INST/USJ/USU DADS 1 YR SUM PRI SL FAIL SC-RV ASL DT BIT CODES

14099 0 7 37.944 27.416 1 22 2.25 .30 .00 78045 0 0  
25.536 .000 14 23.60 .00 9050 00000001 00010000

EXHIBIT 7

78036

## DEMAND HISTORY DATA

[illegible]

## DEMAND AND REPAIR DATA

STG	---ANNUAL FREQUENCY---			T-IN RATE	REPAIR-CYCLE RQMT TIME	REPAIR RATE	RESUPPLY RATE	DMD RATE FOR RD	---MONTHLY DEMAND RATE---			PCT TRND VAR
	N-DSS	DSS	NON-R						N-DSS	DSS	NON-R	
RIC	4	15	0	0.00	0.0	0.0	0.0	0.524	0.524	31.585	0.000	97 102
WHJ	4	15	0	0.00	0.0	0.0	0.0	0.524	0.524	31.585	0.000	97 102

## INSTALLATION ITEM CONTROLS

STG	OST	AVG	MSN	SAF-CAT	EDIT	MIN	SAFETY	REORDER	OLD	NEW	PCT
RIC	DAYS	PRI	VAL	PRG-MGR	CODE	R/O	LEVEL	POINT	R/O	R/O	CHANGE
WMJ	44	09	8	8	0	0	0	1	0	7	ADD
TOTAL											
						0			0	7	ADD

## RECOMMENDED LEVELS

MIN R/O	SLC	SAFETY LEVEL	REORDER POINT	OLD R/O	NEW R/O	PCT CHANGE
0	0	0	1	0	7	ADD
0	0	0		0	7	ADD

## EXHIBIT 8

### FORECAST DEMAND RATE OF ZERO

Exhibit 8 shows that where DSS demands are present, the forecast demand rate can be reduced to zero. While the computed demand rate forecast is not printed on any report, it can be extrapolated from the percent trend (PCT TRND) as shown on the Supply Control Study. The percent trend (which is erroneous when DSS data is present) is computed as follows:

$$\frac{\text{Forecast DR} - \text{non-DSS DR} + \text{DSS DR}}{\text{non-DSS DR} + \text{DSS DR}} \times 100$$

In this example:

$$\frac{0 - 6.686 + 37.342}{6.686 + 37.342} \times 100 = \frac{3065.6}{44.028} = 69.628 \text{ and rounded} = 70,$$

as shown on the report. Therefore, the computed demand rate forecast was zero. Since the annual frequency does not exceed the System Control TRND, the forecast demand rate was not used in computing the RO. (If the forecast demand rate had been used, only the non-recurring demand rate would have been reflected in the RO.)

When the forecast demand rate is zero, the demand trend ratio is also zero. The Safety Category Code (SCC) could have been any value from 1 through 5, depending on the trend ratio. (See page 25.) The invalid trend ratio of 0 resulted in an SCC of 5. (See page 24.) Since the maximum safety level for the item (14) is being used, even for SCC "5", this example does not show a reduction or elimination of the safety level. (See Exhibit 9 for details of determining the Safety Category Code and safety level.)



PREPARED 70 FEB 06 CYCLE 8014C

ABF DISPLAY/SUPPLY CONTROL STUDY

PCN: ALB-A09

CUTCFF 78034

## DEMAND HISTORY DATA

STOCK NBR	5330	00	740	9550	AUTHORITY CODE	4	STUDY DATE	78034	LEVELS REASON	MANAGER REQUEST
UNIT OF ISSUE	EA				AUTH CODE SET BY MGR	NO	SUSPENSE DATE	78034	STUDY REASON	MANAGER REQUEST
NONENCLATURE	SEAL	PLAIN			ACQUISITION ADVISE CODE	0	LAST LEVELS	77329	SUPPLY CLASS DESIGNATOR	
UNIT PRICE	\$2.19				SPECIAL CONTROL ITEM CODE	0	LAST STUDY	77102	SAFETY LEVEL FLAG	OFF
MCSC CODE	K22NM				PHRASE CODE		LAST DEMAND	78025	MINIMUM RETENTION QTY	0
TYPE ITEM CODE	0				PCT NONRECUR IN FUCEAST	99	R/D LAST STUDY	111	RETENTION QUANTITY	540
MAINTENANCE CODE (USER)	0				MAXIMUM DST	90	LEVEL FREQUENCY	90	FORECAST ANNUAL DEMAND	\$1,168
ESSENTIALITY CODE	L				MAINTENANCE CODE (REPAIR)	N	NR PLL/ASL UNITS	2	ISSUED LAST 12 MONTHS	\$1,155
PLL ELIGIBLE / MGR SET	YES/NO				RECOVERABILITY CODE	Z			TOTAL VALUE R/D	\$175

## DEMAND AND REPAIR DATA

STG	---ANNUAL FREQUENCY---				T-IN		REPAIR-CYCLE		RESUPPLY		DMD RATE		---MONTHLY DEMAND RATE---		PCT	
RIC	N-OSS	DSS	NON-R	T-IN	RATE	RQMT	TIME	RATE	RATE	FOR RO	N-DSS	DSS	NON-R	TRND	VAR	DRAO
WHJ	29	10	2	2	0.50	0.0	0	0.0	0.0	7.102	6.686	37.342	0.42	70	128	0.0

## INSTALLATION ITEM CONTROLS

STG	DST	AVG	MSN	SAF-CAT	EDIT	MIN	SAFETY	REORDER	OLD	NEW	PCT	
PRIC	DAYS	PRI	VAL	PRG-MGR	CODE	R/O	LEVEL	POINT	R/O	R/O	CHANGE	
MMJ	49	09	4	5	0	0	0	14	26	111	80	-28
TOTAL							0			111	80	

## RECOMMENDED LEVELS

[illegible]

PREPARED 78 JAN 08

DEMAND ANALYSIS SYSTEM CONTROLS

PCN ALD-Q26

CUTOFF 78039

NUMBER DATE

TMSV-M1 TRENDED MISSION AND SERVICE VALUE

TMSV-M2 RATIO FORECASTED DEMAND TO DEMAND

TMSV-M3 7111 EMSV 1.3 1.1 0.9 0.7 0.7

TMSV-M4 7035 1 1 1 1 1 2 3

TMSV-M5 6320 2 1 1 2 3 4

TMSV-M6 6320 3 1 2 3 4 (5)

TMSV-M7 6320 4 2 3 4 5 6

TMSV-M8 6320 5 3 4 5 6 7

TMSV-M9 6320 6 4 5 6 7 8

TMSV-M10 6320 7 5 6 7 8 9

TMSV-M11 6320 8 6 7 8 9 9

TMSV-M12 6320 9 7 8 9 9 9

TMSV-M13 6320

ASSIGNMENT OF SAFETY CATEGORY CODE "5"

WHEN TRENDED RATIO = ZERO

EXHIBIT 8

PAGE 00099

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EXHIBIT 9  
ELIMINATION OF SAFETY LEVEL

Exhibit 9 shows an erroneous elimination of safety level due to an error in forecast demand rate. The computed demand rate forecast is zero (See Exhibit 8 for method of determining the forecast demand rate). Therefore, the demand trend ratio  $\left( \frac{\text{forecast demand rate}}{\text{non-DSS demand rate}} \right)$  is also zero.

Since there is no edit code and there are no ASL/PLL units (see page 27), Table PMVC will be used to determine the PMSV as the first step in the selection of the Safety Category Code. For an Operating Level Code of 1 (see page 28) and an average priority of 06 (see page 27), the PMVC table value is 7 (see page 29). Table EMVA is used to determine the EMSV as the second step in the selection of Safety Category Code. For a PMSV of 7 and a unit price of \$14.50, the table value is 7 (see page 30). Table TMSV is used as the final step in the selection of Safety Category Code. For an EMSV of 7 and a demand trend ratio of 0, the Safety Category Code is 9 (see page 31). The SFLA entry for Safety Category Code 9 is zero (see page 32), which gives a safety level of zero (see page 27). (The computation of safety levels is shown in paragraph 3.1.4.4.c. Since the SFLA entry is used as a multiplier, safety level will always be zero when the SFLA entry is zero).

From the data available, it is not possible to determine the true demand trend ratio for non-DSS demands only, or the exact Safety Category Code which would have been assigned on the basis of the true ratio. However, it is not likely that the true ratio would indicate a downward trend. Trended rate places emphasis on the most current demands and the one non-DSS unit (WX3JPL) for the item shows all its demands in the current period and previous six months. (see page 28).

Referring to the TMSV table (page 31), it can be seen that an EMSV of 7 can produce a Safety Category Code ranging from 5 to 9, depending on the trend ratio. If there is no trend (ratio = 1), the TMSV table has no effect and the Safety Category Code is the same value as the EMSV.

In the current example, it is possible that an actual upward trend exists and a Safety Category Code of 5 or 6 may be correct. Even if no trend exists, the correct Safety Category Code would be 7. Any of the possible code assignments (other than the 9 which was selected), would have resulted in a safety level for the item, because the SFLA entry for the other codes is not zero (page 32).

PCN ALB-A09

### DEMAND HISTORY DATA

STOCK NBR	1005 00	608	5020	EA	AUTHORITY CODE	3	STUDY DATE	78034	LEVELS REASON	MANAGER REQUEST
UNIT OF ISSUE					AUTH CODE SET BY MGR	YES	SUSPENSE DATE	78034	STUDY REASON	MANAGER REQUEST
NOMENCLATURE					ACQUISITION ADVISE CODE	D	LAST LEVELS	78020	SUPPLY CLASS DESIGNATOR	
UNIT PRICE					SPECIAL CONTROL ITEM CODE	0	LAST STUDY	78020	SAFETY LEVEL FLAG	OFF
MCSC CODE					PHRASE CODE		LAST DEMAND	78018	MINIMUM RETENTION QTY	0
TYPE ITEM CODE					PCT NONRECUR IN FORECAST	0	R/O LAST STUDY	8	RETENTION QUANTITY	79
MAINTENANCE CODE (USER)					MAXIMUM DST	90	LEVEL FREQUENCY	60	FORECAST ANNUAL DEMAND	\$1,125
ESSENTIALITY CODE					MAINTENANCE CODE (REPAIR)	N	NR PLL/ASL UNITS	0	ISSUED LAST 12 MONTHS	\$1,125
PLI / ELIGIBLE / MGR SET					RECOVERABILITY CODE	Z			TOTAL VALUE R/O	\$102

## DEMAND AND REPAIR DATA

STG	---ANNUAL FREQUENCY---		T-IN	REPAIR-CYCLE	REPAIR	RESUPPLY	DMD RATE	---MONTHLY DEMAND RATE---		PCT			
RIC	N-DSS	DSS	NON-R	T-IN	RQMT	TIME	RATE	FOR RO	N-DSS	DSS	TRND	VAR	DRAG
1	2	14	0	0	0.0	0	0.0	0.629	0.629	5.838	81	99	0.0

### INSTALLATION ITEM CONTROLS

STG RIC	OST DAYS	AVG PRI	MSN VAL	SAF-CAT PRG-MGR	EDIT CODE	MIN R/O	SLC	SAFETY LEVEL	REORDER POINT	OLD R/O	NEW R/O	PCI CHANGE
MMJ	56	06	7	9 0	0	0	0	0	1	8	7	-13
TOTAL												

PREPARED 70 FEB 07

DEMAND ANALYSIS ITEM DATA REPORT  
(DAILY DA MASTER)

PCN ALD-028

CUTOFF 78034

REQ NR 003 SWEARINGEN 2A

1005006085020

STOCK NUMBER	1005-00-608-5020	RECORD ID	H	NICP	B14	MCSC CODE	M22HJ
NONENCLATURE	LEG ASSEMB	STOCKAGE LIST CODE	Q	TYPE ITEM CODE	0	AVE OST-DSS	56.0
UNIT PRICE	\$14.50	UNIT OF ISSUE	EA	AUTHORITY CODE	3	MAX ORD SHIP TIME(IISD)	999
UNIT PACK QUANTITY	1	ESSENTIALITY	H	DX MANAGER	3	AVE OST (IISD)	56.0
TOTAL R/D	8	PRICE SIGNAL CODE	5	MAINTENANCE-REPAIR CODE	N	AVERAGE OST VARIANCE	7.0
R/O CONTROL QUANTITY	8	ACQ ADVICE CODE	D	SPEC CONTROL ITEM CODE	0	DATE OF FIRST DEMAND	77051
MINIMUM RETENTION QTY	0	SHELF LIFE CODE	0	MAINTENANCE-USE CODE	0	DATE OF LAST LEVELS	78034
EXPENDABILITY	X	PHRASE CODE	2	OPERATING LEVEL CODE	1	DATE LAST STUDY	78020
RECOVERABILITY CODE	Z	MANAGER CODE	0	SUPPLY CONTROL STUDY	1000	SUPPLY CLASS DESIGNATOR	R
STOCK NUMBER ID	A	PCT NON-R DEMANDS	0	MAX SCS FREQ CODE	0	NUMBER OF STG SITES	1
BITS	01000000 00000010 10111000			NUMBER OF UNITS	3		

UNIT DATA

UNIT ID	REQ CD	PIL DT	AUTH QTY	MIN QTY	DEMAND RATE	DEMAND COUNTERS	REC QTY	DAYS	S O S	TYPE	UNIT BIT CODES
WX3JJM		77103			6.392	1001142210001	NONE	3	14099	D	00000000 00010000
WX3JPL					.705	1000101000000	NONE	3	14099	2	00000000 00000000
WX3V9E					.154	0100000000000	NONE	3	14099	D	00000000 00010000

STORAGE SITE DATA

INST SLC	R/O	NORMAL RT	VARIANCE	S/L UR ROP	INST/GSU/DSU	CURRENT QTY	NR DMDS	DMDS/SL	CR FLR	LAST DMD	FIX	EDIT
14099	0	8	6.342	1	14	5	1.31	.10	.00	78018	0	0
			7.311			17	8.40	.04	9000	00000001	00010000	

EXHIBIT 9

Lucretia T.

二

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PAGE 00052

PREPARED 70 JAN 08

ULTIMATE ANALYSIS SYSTEM CONTROLS

PCN ALD-026

CUTOFF 76000

NUMBER DATE

ENVA-H1 ECONOMIC MISSION AND SERVICE VALUE

ENVA-H2 PMSV UNIT PRICE TO \$25.00

ENVA-H3 .01 TO .26 TO 1.01 TO 2.01 TO

ENVA-04 6320 .25 1.00 2.00 25.00

ENVA-05 6320 1 1 1 1 1

ENVA-06 6320 2 1 1 1 2

ENVA-07 6320 3 1 1 2 3

ENVA-08 6320 4 1 2 3 4

ENVA-09 6320 5 2 3 4 5

ENVA-10 6320 6 3 4 5 6

ENVA-11 6320 7 4 5 6 7

ENVA-12 6320 8 5 6 7 8

ENVA-13 6320 9 6 7 8 9

EXHIBIT 9

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PAGE 00029

PREPARED 78 JAN 08 DEMAND ANALYSIS SYSTEM CONTROLS PCN ALD-026 CUTOFF 78000

NUMBER DATE

TMSV-M1 TRENDED MISSION AND SERVICE VALUES

TMSV-M2 RATIO FORECASTED DEMAND TO DEMAND

TMSV-M3 7111 EMSV DEMAND TRENDED RATIO

TMSV-M4 7035 1.3 1.1 .9 .7 .7

TMSV-M5 6320 1 1 1 1 2 3

TMSV-M6 6320 2 1 1 2 3 4

TMSV-M7 6320 3 1 2 3 4 5

TMSV-M8 6320 4 2 3 4 5 6

TMSV-M9 6320 5 3 4 5 6 7

TMSV-M10 6320 6 4 5 6 7 8

TMSV-M11 6320 7 5 6 7 8 9

TMSV-M12 6320 8 6 7 8 9 9

TMSV-M13 6320 9 7 8 9 9 9

A

A

SAME VALUES

EXHIBIT 9

31

PAGE 00099



PREPARED 78 JAN 08 DEMAND ANALYSIS SYSTEM CONTROLS PCN ALD-026 CHUGEE 78006

NUMBER DATE

SFLA-M1 SAFETY FACTORS USED TO COMPUTE SAFETY LEVEL

SFLA-M2 SAFETY EXPONENTIAL NORMAL PCISSUN

SFLA-M3 CAT EQ/LT EQ/LT GT

SFLA-04 6320 45 9999 9999

SFLA-05 6320 1 .40 2.35 3.20

SFLA-06 6320 2 .35 2.10 2.84

SFLA-07 6320 3 .30 1.40 2.55

SFLA-08 6320 4 .25 1.25 2.23

SFLA-09 6320 5 .20 1.05 1.90

SFLA-10 7125 6 .15 .85 1.43

SFLA-11 7125 7 .10 .55 .95

SFLA-12 7125 8 .05 .25 .48

SFLA-13 7125 9 .00 .00 .00

EXHIBIT 9

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## EXHIBIT 10

### INCLUSION OF DSS DATA IN SUPPLY CONTROL STUDY ENTRIES

This Supply Control Study is an example of conflicting data entries caused by the inclusion of DSS data. The Requisitioning Objective, which correctly excludes DSS demands, has been recomputed and reduced by a quantity of three (a six percent reduction). However, the demand trend is reported as upward by 41 percent and the forecast annual demand is shown as \$116,068, more than five times the value of the issues for the last 12 months (shown as \$22,143). The report also shows one non-recurring demand at a monthly rate of 106.079, because DSS non-recurring demands are included in the rate but excluded from the frequency.

The "Forecast Annual Demand" is computed as: non-DSS recurring demands (8.667) plus DSS recurring demands (18.032) plus DRAQ (0) plus non-DSS non-recurring to be considered as recurring (.761) plus DSS non-recurring (105.310) (= monthly demand rate of 132.770) times 12, times unit price (\$72.85), which equals \$116,067.53.

See paragraph 3.1.5.4.b(1).

The "Issued Last 12 Months" entry is computed as follows: non-DSS recurring demands (8.667) plus non-DSS non-recurring demands (.761) plus DSS recurring demands (18.032) minus turn-ins (2.13) (= issue rate of 25.33) times 12, times unit price (72.85) = \$22,143.86. See paragraph 3.1.5.4.b(2).

#### Summary:

The non-DSS demand rate used in computing the RO = 9.428 (DMD RATE FOR RO)

The monthly demand rate used in computing the "Forecast Annual Demand" is 132.770 (see above).

The actual Operating Level (30 days supply) = 11 (RO minus Reorder Point)

The monthly demand rate used in computing "Issued Last 12 Months" = 25.33 (see above).

The actual Forecast Demand Rate, which is not printed on the report = 1.52.

(It is distorted due to the presence of DSS demands in trended demand rate)

(See Exhibit 8 for method used in determining the computed Forecast Demand Rate.)

The Safety Category Code has been changed from 6 to 8 due to the erroneous trend ratio of less than .7  $\left( \frac{1.52}{8.667} \right)$  (See Exhibit 9 for method used in determining the Safety Category Code.)

PREPARED 78 APR 11 CYCLE DO1MC ABF DISPLAY/SUPPLY CONTROL STUDY PCN ALB-A09 CUTOFF 78101

## DEMAND HISTORY DATA:

STOCK NBR	4230 00 720 1618	AUTHORITY CODE	2	STUDY DATE	78101	LEVELS REASON	NORMAL FREQUENCY
UNIT OF ISSUE	EA	AUTH CODE SET	NO	SUSPENSE DATE	78101	STUDY REASON	MANAGER REQUEST
NOMENCLATURE	DECON APP	ACQUISITION ADVICE CODE	0	LAST LEVELS	78055	SUPPLY CLASS DESIGNATOR	G
UNIT PRICE	\$72.85	SPECIAL CONTRL IFLM CODE	0	LAST STUDY	78055	SAFETY LEVEL FLAG	CFF
TYPE CODE	M21R	PHRASE CODE		LAST DEMAND	78079	MINIMUM RETENTION QTY	0
TYPE ITEM CODE	0	PCT NONRECUP IN FORECAST	99	P/O LAST STUDY	51	REFORECAST QUANTITY	1615
MAINTENANCE CODE (USER)	0	MAXIMUM DST	90	LEVEL FREQUENCY	45	FORECAST ANNUAL DEMAND	\$116.063
ESSENTIALITY CODE	H	MAINTENANCE CODE (REPAIR)	N	NR PLL/ASL UNITS	1	ISSUED LAST 12 MONTHS	\$22.143
ELIGIBILITY / MGR SET	YES/NO	RECOVERABILITY CODE	0			TOTAL VALUE R/O	\$3,497

## DEMAND AND REPAIR DATA

STG PIC	---ANNUAL FREQUENCY---		T-IN RATE	REPAIR-CYCLE RQMT TIME	REPAIR RATE	RESUPPLY RATE	DNH RATE FOR RO	---MONTHLY DEMAND RATE---		PCT TRND	PCT VAR	
	N-DSS	DSS						N-DSS	DSS			
WMJ	2	21	1	2.13	0.0	0.0	9.428	8.667	18.032	106.079	41	107

## INSTALLATION ITEM CONTROLS

STG	OST	AVG	MSN	SAF-CAT	EDIT
RIC	DAYS	PRI	VAL	PRG-MGR	CODE

NAME	90	13	5	8	0
WMJ	90	13	5	8	0

**TOTAL**

## RECOMMENDED LEVELS

MIN	SAFETY REORDER	OLD	NEW	PCT
R/O	SLC LEVEL	R/O	R/O	CHANGE

0	0	9	37	51	48
---	---	---	----	----	----

9 51 48

**COMPARATIVE DISTRIBUTION OF DSS/NON-DSS DEMANDS**  
(Non-Medical Items)

Distribution of DSS and non-DSS demands from 486 Supply Control Studies and/or Item Data Reports accumulated during the system audit for items having more than one demand:

Stockage List Code	Number of Items			Total
	with non-DSS demands only	with DSS demand only	with both DSS and non-DSS demands	
Z	43	66	59	168
Q	96	N/A	173	269
M	4	34	10	48
X		1		1
Total	[143]	101	[242]	486

Of the 486 reports which were studied, 143 accurately reflected the non-DSS data; 242 were affected by the inclusion of DSS data.

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## PROGRAM CODING CHANGES

Since the program listings for use during the current study represent compilations executed early in 1978, the line sequence numbers will possibly have been changed during subsequent updates. Where it is necessary to refer to a line of coding in a program, the referenced page is reproduced here in order to facilitate locating the line within a paragraph. Dates and line sequence numbers shown on the coding sheets refer to the program listings that were used.

I. Program P02ALD - Extract and Format Demand Analysis Transactions  
for Processing in the Demand Analysis System (DAS)

1. Current Processing

In the Demand Update Program (P03ALD), Type Stock Number is used as part of the "key" for finding records on the Demand Master File (DMF). To avoid confusion and to prevent generating records which cannot be found, program P02ALD automatically sets the Type Stock Number Code to "A" for all transaction stock numbers. However, Type Stock Number Code for cross-reference stock numbers is set to either "A" or "C", depending on the format of the stock number.

2. Current Results

It is possible for a DMF record to be changed to a "new" stock number that cannot be found on the file. This could occur if the cross-reference Type Stock Number is not set to "A". Later demand transactions for the "new" stock number, including report requests, will have the Type Stock Number set to "A" and will not find a matching record on the DMF.

3. Corrective Action

To ensure that a "not found" condition cannot occur because of a discrepancy in Type Stock Number, Program P02ALD should set the Type Stock Number to "A" for cross-reference stock numbers as well as for transaction stock numbers. (That is, the coding which sets Type Stock Number to "C" should be deleted from the program. See page A-5).



25 FEB 1978

02913 015030 MOVE RELATED-STOCK-NR TO NEW-STOCK-NUMBER,  
 02914 015010 MOVE ASSET-LIFE TO NEW-SHARE-LIFE-CODE,  
 02915 015020 IF MRIC = 8  
 02916 015030 MOVE 8 TO NEW-MICC,  
 02917 015040 IF MGROUP GREATER THAN 2,  
 02918 015050 GO TO 1020-WRITE-TRANSACTION,  
 02919 015060 IF MGROUP = 2,  
 02920 015070 GO TO 0490-SET-UI-CHANGE-FLAG,  
 02921 015080 IF MIESI-BYTE LESS THAN 10,  
 02922 015090 MOVE 10 TO NEW-TYPE-STOCK-NR,  
 02923 015100 OTHERWISE  
 02924 015110 MOVE 10 TO NEW-TYPE-STOCK-NR,  
 02925 015120 GO TO 1020-WRITE-TRANSACTION, 0490-SET-UI-CHANGE-FLAG,  
 02926 015130 1020-WRITE-TRANSACTION, 1020-WRITE-TRANSACTION,  
 02927 015140 0490-SET-UI-CHANGE-FLAG, 0490-SET-UI-CHANGE-FLAG,  
 02928 015150 1020-WRITE-TRANSACTION, 0490-SET-UI-CHANGE-FLAG,  
 02929 015160 0490-SET-UI-CHANGE-FLAG, 0490-SET-UI-CHANGE-FLAG,  
 02930 015170 ON M20-CHAR OF MDOC-ID,  
 02931 015180 GO TO 1020-WRITE-TRANSACTION,  
 02932 015190 0485-C36-PROCESSING,  
 02933 015200 IF CHG-ORIG-NUM = 1NR,  
 02934 015210 GO TO 0560-NOT-PROCESSED,  
 02935 015220 MOVE CHG-MAINTNUE TO NEW-CAT-MAINT,  
 02936 015230 MOVE CHG-MAINTREP TO NEW-MAINT-RFP-CD  
 02937 015240 MOVE 136 TO TRANSACTION-CODE IN TRANSACTION,  
 02938 015250 MOVE 7 TO SEGMENTS,  
 02939 015260 GO TO 1020-WRITE-TRANSACTION,  
 02940 015270 0490-SET-UI-CHANGE-FLAG,  
 02941 015280 MOVE 1 TO UI-CHANGE-FLAG  
 02942 015290 GO TO 0030-READ-INPUT,  
 02943 015300 0510-CHECK-WHOLE,  
 02944 015310 MOVE 2 TO SEGMENTS,  
 02945 015320 ALTER 1030-END-OUTPUT-PROCESS TO PROCEED TO 0030-READ-INPUT,  
 02946 015330 IF MNUMEN = SPACFS,  
 02947 015340 GO TO 0030-READ-INPUT,  
 02948 015350 MOVE MDOC-ID TO DOC-ID-CODE,  
 02949 015360 MOVE 110 TO TRANSACTION-CODE IN TRANSACTION,  
 02950 015370 MOVE 126 TO KODE,  
 02951 015380 MOVE MNUMEN TO NOMEICLAI,  
 02952 015390 GO TO 1020-WRITE-TRANSACTION,  
 02953 015400 0520-EXHAUST-PROCESS,  
 02954 015410 MOVE 121 TO TRANSACTION-CODE,  
 02955 015420 MOVE CAL-UI TO UNIT-DE-ISSUE,  
 02956 015430 MOVE CAL-F50 TO NEW-STOCK-NUMBER,  
 02957 015440 MOVE CAL-ID TO NEW-TYPE-STOCK-NR,  
 02958 015450 IF C-LUCATOR = 0,  
 02959 015460 MOVE C-LUCATOR-0 TO U-I-CONVERSION-FACTOR,  
 02960 015470 IF C-LUCATOR = 1,  
 02961 015480 MOVE C-LUCATOR-1 TO U-I-CONVERSION-FACTOR,  
 02962 015490 IF C-LUCATOR = 2,  
 02963 015500 MOVE C-LUCATOR-2 TO U-I-CONVERSION-FACTOR,  
 02964 015510 IF C-LUCATOR = 3,  
 02965 015520 MOVE C-LUCATOR-3 TO U-I-CONVERSION-FACTOR.

← DELETE

03602	021090	EXAMINE WORK-DEMAND-COUNTERS REPLACING ALL	PO2ALDAD
03603	021900	MOVE 9-DEMANDS TO DEMANDS-LAST-4-PERIODS.	PO2ALDAD
03604	021910	MOVE 4-DEMANDS TO DEMANDS-PREV-3-PERIODS.	PO2ALDAD
03605	021920	ADD WORK-DMD (12), WORK-DMD (3), WORK-DMD (4), WORK-DMD (5),	77112
03606	021930	WORK-DMD (16), WORK-DMD (17), WORK-DMD (8), WORK-DMD (9),	77112
03607	021940	WORK-DMD (10), WORK-DMD (11), WORK-DMD (12), WORK-DMD (13),	77112
03608	021950	GIVING TOTAL-DEMANDS.	PO2ALDAD
03609	021960	MOVE 0 TO ENTRY-CODE.	PO2ALDAD
03610	021970	MOVE 1 TO UNIT-CODE (18).	PO2ALDAD
03611	021980	IF TSTATUS-CODE = 'CG',	PO2ALDAD
03612	021990	ALTER 1030-END-OUTPUT-PROCESS TO PROCEED TO	PO2ALDAD
03613	022000	0770-FORCE-FSN-CHANGE.	PO2ALDAD
03614	022010	GO TO 0710-CONTINUE-FORMAT-PLL-TRANS.	PO2ALDAD
03615	022020	0770-FORCE-FSN-CHANGE.	PO2ALDAD
03616	022030	MOVE 11 TO TRANSACTION-CODE.	PO2ALDAD
03617	022040	MOVE 2 TO SEGMENTS.	PO2ALDAD
03618	022050	MOVE TSTOCK-NR TO NEW-STOCK-NUMBER.	PO2ALDAD
03619	022060	MOVE TSTOCK-NR TO NEW-STOCK-NUMBER.	PO2ALDAD
03620	022070	MOVE 'C' TO NEW-TYPE-STOCK-NR.	PO2ALDAD
03621	022080	IF TELLN-FIRST LESS THAN '0',	PO2ALDAD
03622	022090	OTHERWISE	PO2ALDAD
03623	022100	MOVE 'A' TO NEW-TYPE-STOCK-NR.	PO2ALDAD
03624	022110	MOVE 1000-ID-CODE TO DOC-ID-CODE.	PO2ALDAD
03625	022120	ALTER 1030-END-OUTPUT-PROCESS TO PROCEED TO	PO2ALDAD
03626	022130	0780-WRITE-XREF-SCHEDULE.	PO2ALDAD
03627	022140	GO TO 1020-WRITE-TRANSACTION.	PO2ALDAD
03628	022150	0780-WRITE-XREF-SCHEDULE.	PO2ALDAD
03629	022160	ALTER 1030-END-OUTPUT-PROCESS TO PROCEED TO 0030-READ-INPUT.	PO2ALDAD
03630	022170	MOVE 350 TO TRANSACTION-CODE.	PO2ALDAD
03631	022180	MOVE 1 TO SEGMENTS.	PO2ALDAD
03632	022190	MOVE 1000-ID-CODE TO DOC-ID-CODE.	PO2ALDAD
03633	022200	MOVE UNIT-ID TO UNIT-ID.	PO2ALDAD
03634	022210	MOVE ICUST-TYPE TO UNIT-TYPE.	PO2ALDAD
03635	022220	MOVE COMPLETE-SOS TO SOURCE-OF-SUPPLY IN TRANSACTION.	PO2ALDAD
03636	022230	GO TO 1020-DELETE-TRANSACTION.	PO2ALDAD
03637	022240	0790-ASL-AND-PROCESS.	PO2ALDAD
03638	022250	MOVE 401 TO TRANSACTION-CODE IN TRANSACTION.	PO2ALDAD
03639	022260	ADD 1 TO CT (07).	PO2ALDAD
03640	022270	ALTER 1030-END-OUTPUT-PROCESS TO PROCEED TO	PO2ALDAD
03641	022280	0820-BUILD-PAA-C-NUMBER.	PO2ALDAD
03642	022290	0800-BUILD-ASL-DATA-TRANS.	PO2ALDAD
03643	022300	MOVE 3 TO SEGMENTS.	PO2ALDAD
03644	022310	MOVE TSL-DATE TO WORK-DATE.	PO2ALDAD
03645	022320	PERFORM 1000-DATE-CHECK.	PO2ALDAD
03646	022330	IF TMIN-QTY-SLC NOT = 50ACE,	PO2ALDAD
03647	022340	MOVE TMIN-QTY-SLC TO STOCKAGE-LIST-CODE,	PO2ALDAD
03648	022350	OTHERWISE	PO2ALDAD
03649	022360	MOVE TAUTH-NJ-C4-SLC TO STOCKAGE-LIST-CODE.	PO2ALDAD
03650	022370	MOVE TFIXED-QTY-INT TO FIX-QTY-INT.	PO2ALDAD
03651	022380	IF TSTOCK-QTY IS NOT EQUAL TO 50ACE,	PO2ALDAD
03652	022390	MOVE TSTOCK-QTY TO AD-9.	PO2ALDAD
03653	022400	EXAMINE AND-00 REPLACING ALL	PO2ALDAD
03654	022410	MOVE SAVE-RD TO OSO-UNIT-CY.	PO2ALDAD

← DELETE

# COBOL PROGRAM SHEET

PROGRAM		SYSTEM		SHEET		OF	
PROGRAMMER		ST. NO.		DATE		IDENT.	
P02ALDAD				25 FEB 1978		73	
PAGE	SERIAL	1	2	3	4	5	6
1	1	1	2	3	4	5	6
2	2	1	2	3	4	5	6
3	3	1	2	3	4	5	6
4	4	1	2	3	4	5	6
5	5	1	2	3	4	5	6
6	6	1	2	3	4	5	6
7	7	1	2	3	4	5	6
8	8	1	2	3	4	5	6
9	9	1	2	3	4	5	6
10	10	1	2	3	4	5	6
11	11	1	2	3	4	5	6
12	12	1	2	3	4	5	6
13	13	1	2	3	4	5	6
14	14	1	2	3	4	5	6
15	15	1	2	3	4	5	6
16	16	1	2	3	4	5	6
17	17	1	2	3	4	5	6
18	18	1	2	3	4	5	6
19	19	1	2	3	4	5	6
20	20	1	2	3	4	5	6
21	21	1	2	3	4	5	6
22	22	1	2	3	4	5	6
23	23	1	2	3	4	5	6
24	24	1	2	3	4	5	6
25	25	1	2	3	4	5	6
26	26	1	2	3	4	5	6
27	27	1	2	3	4	5	6
28	28	1	2	3	4	5	6
29	29	1	2	3	4	5	6
30	30	1	2	3	4	5	6
31	31	1	2	3	4	5	6
32	32	1	2	3	4	5	6
33	33	1	2	3	4	5	6
34	34	1	2	3	4	5	6
35	35	1	2	3	4	5	6
36	36	1	2	3	4	5	6
37	37	1	2	3	4	5	6
38	38	1	2	3	4	5	6
39	39	1	2	3	4	5	6
40	40	1	2	3	4	5	6
41	41	1	2	3	4	5	6
42	42	1	2	3	4	5	6
43	43	1	2	3	4	5	6
44	44	1	2	3	4	5	6
45	45	1	2	3	4	5	6
46	46	1	2	3	4	5	6
47	47	1	2	3	4	5	6
48	48	1	2	3	4	5	6
49	49	1	2	3	4	5	6
50	50	1	2	3	4	5	6
51	51	1	2	3	4	5	6
52	52	1	2	3	4	5	6
53	53	1	2	3	4	5	6
54	54	1	2	3	4	5	6
55	55	1	2	3	4	5	6
56	56	1	2	3	4	5	6
57	57	1	2	3	4	5	6
58	58	1	2	3	4	5	6
59	59	1	2	3	4	5	6
60	60	1	2	3	4	5	6
61	61	1	2	3	4	5	6
62	62	1	2	3	4	5	6
63	63	1	2	3	4	5	6
64	64	1	2	3	4	5	6
65	65	1	2	3	4	5	6
66	66	1	2	3	4	5	6
67	67	1	2	3	4	5	6
68	68	1	2	3	4	5	6
69	69	1	2	3	4	5	6
70	70	1	2	3	4	5	6
71	71	1	2	3	4	5	6
72	72	1	2	3	4	5	6
73	73	1	2	3	4	5	6
74	74	1	2	3	4	5	6
75	75	1	2	3	4	5	6
76	76	1	2	3	4	5	6
77	77	1	2	3	4	5	6
78	78	1	2	3	4	5	6
79	79	1	2	3	4	5	6
80	80	1	2	3	4	5	6

## II. Program P03ALD - Demand Master File Update

### 1. Current Processing

Program P03ALD rejects the following transactions with the message "no record in demand file."

a. Demand cancellations (generated by the system) for demands older than the thirteen month period that is maintained on the Demand Master File. See Appendix E, page E-14.

b. In-transit receipt confirmations, transaction type 287, (used to record DSS order ship time) when the file record is a fringe memo. Memo records have no provision for recording DSS order ship time. See Appendix E, page E-40.

c. Generated levels headers (transaction type 295) or replies to catalog data (transaction type 285) when there is no demand record on file. Supply Control Study Requests for which there is no demand record on file generate level header records which are recycled and then rejected in the following weekly cycle with the message "no record in demand file." See Appendix E, pages E-38, E-39.

### 2. Current Results

These messages do not invalidate processing in any way. However, they tend to undermine managers' confidence in systems reports since no corrective action can be taken and, in the case of catalog replies and levels headers, the data is not identifiable.

### 3. Corrective Action

Intransit receipt confirmations should be bypassed without writing an exception line when the file record is a fringe memo. (Page A-12, A-15).

All cancellation rejects should be routed to paragraph 3490-CHECK-CANCELLATION which already contains coding to bypass obsolete cancellations. This change will also facilitate future changes to cancellation processing, as required, since all cancellation checks will be processed in the same paragraph. The change affects the following paragraphs:

2200-STORE-DEMAND.

2220-STORE-NON-RECURRING-DMD.

2231-DSS-N-R-DEMAND-CODE-TEST.

2234-DSS-RECUR-DEMAND-TEST.

2385-SEARCH-DEMAND-PERIODS.

(Pages A-8 to A-11, A-14).

Catalog replies and levels headers can be bypassed in paragraph 3580-NO-MATCH-TRANS-PROCESS when there is no demand master record. (Pages A-13, A-15.)

The suggested coding eliminates the exception message for all catalog replies and levels headers when there is no Demand Master Record. If it is not considered advisable to reject all of these transactions in order to identify systems errors, consideration should be given to suppressing the recycling of zero levels and their subsequent rejection by Demand Analysis when there is no Demand Master Record.

At the end of paragraph 3590-INVALID-MEMO-MATCH, the report request is rejected with exception type 13 ('no demand record') but the next statement is "GO TO 3850-WRITE-LEVEL." This statement could be changed to "GO TO 0770-READ-ACTIVITY", which would eliminate the recycling of unnecessary levels transactions.

27 MAR 1952

04185	032750	IF INIT-10 IN TRANSACTION EQUAL TO UNIT-10 IN WORK-SURRECORD	76338
04186	032760	GO TO 2240-DEMAND-RATE-COMPUTATION.	76338
04187	032770	GO TO 2220-STOPE-NON-RECURRING-DMO.	76338
04188	032780	2190-DEMAND-CODE-TEST.	PO3ALDZD
04189	032790	IF REQUEST-CANCELLATION	PO3ALDZD
04190	032800	MOVE 1 TO ADD-OR-SUBTRACT.	PO3ALDZD
04191	032810	IF NOT DEMAND-HISTORY.	PO3ALDZD
04192	032820	GO TO 2200-STOPE-DEMAND.	PO3ALDZD
04193	032830	IF MANAGEMENT-CODE IN TRANSACTION = 'C'.	PO3ALDZD
04194	032840	OR MANAGEMENT-CODE IN TRANSACTION = 'X'.	PO3ALDZD
04195	032850	MOVE 1 TO ADD-OR-SUBTRACT.	PO3ALDZD
04196	032860	2200-STOPE-DEMAND.	PO3ALDZD
04197	032870	IF DEMAND-CODE IN TRANSACTION NOT = 'R'.	PO3ALDZD
04198	032880	GO TO 2220-STOPE-NON-RECURRING-DMO.	PO3ALDZD
04199	032890	IF SUBTRACT-ON	PO3ALDZD
04200	032900	AND MISC-UNIT-QTY (CSL) = 0	PO3ALDZD
04201	032910	MOVE 13 TO EXCEPTION-TYPE.	PO3ALDZD
04202	032920	GO TO 3790-EXCEPTION-PROCESS.	PO3ALDZD
04203	032930	ALTER 2290-END-DMO-RATE-COMPUTATION TO PROCEED TO	PO3ALDZD
04204	032940	2210-COUNT-RECURRING-DUMMY-DMO.	PO3ALDZD
04205	032950	MOVE MISC-UNIT-DEMANDS (CSL) TO WORK-DEMAND-COUNTERS-9	PO3ALDZD
04206	032960	MOVE NEXT-MISC-DEMANDS (CSL) TO WORK-DEMAND-COUNTERS-4.	PO3ALDZD
04207	032970	GO TO 2240-DEMAND-RATE-COMPUTATION.	PO3ALDZD
04208	032980	2210-COUNT-RECURRING-DUMMY-DMO.	PO3ALDZD
04209	032990	IF SUB4 GREATER THAN 13,	PO3ALDZD
04210	033000	GO TO 0770-READ-ACTIVITY.	PO3ALDZD
04211	033010	IF SUBTRACT-ON	PO3ALDZD
04212	033020	SUBTRACT CURRENT-DEMAND-RATE FROM MISC-INIT-QTY (CSL).	PO3ALDZD
04213	033030	ELSE	PO3ALDZD
04214	033040	ADD CURRENT-DEMAND-RATE TO MISC-UNIT-QTY (CSL).	PO3ALDZD
04215	033050	IF MISC-UNIT-QTY (CSL) IS NEGATIVE	PO3ALDZD
04216	033060	MOVE ZEROS TO MISC-UNIT-QTY (CSL).	PO3ALDZD
04217	033070	IF SUBTRACT-ON,	PO3ALDZD
04218	033080	SUBTRACT 1 FROM NR-DEMANDS (SUB4).	PO3ALDZD
04219	033090	OTHERWISE	PO3ALDZD
04220	033100	ADD 1 TO NR-DEMANDS (SUBM)	PO3ALDZD
04221	033110	ON SIZE ERROR	PO3ALDZD
04222	033120	MOVE 5 TO NR-DEMANDS (SUBM).	PO3ALDZD
04223	033130	IF NR-DEMANDS (SUBM) IS NEGATIVE	PO3ALDZD
04224	033140	MOVE 0 TO NR-DEMANDS (SUBM).	PO3ALDZD
04225	033150	MOVE WORK-DEMAND-COUNTERS-9 TO MISC-UNIT-DEMANDS (CSL)	PO3ALDZD
04226	033160	MOVE WORK-DEMAND-COUNTERS-4 TO NEXT-MISC-DEMANDS (CSL).	PO3ALDZD
04227	033170	GO TO 2400-PRIORITY-CHECK.	PO3ALDZD
04228	033180	2220-STOPE-NON-RECURRING-DMO.	PO3ALDZD
04229	033190	IF SUBTRACT-ON	PO3ALDZD
04230	033200	AND NON-RECURRING-DUMMY-QTY (CSL) = 0	PO3ALDZD
04231	033210	MOVE 13 TO EXCEPTION-TYPE.	PO3ALDZD
04232	033220	GO TO 3790-EXCEPTION-PROCESS.	PO3ALDZD
04233	033230	ALTER 2280-END-DMO-RATE-COMPUTATION TO PROCEED TO	PO3ALDZD
04234	033240	2230-COUNT-NON-RECURRING-DMO'S.	PO3ALDZD
04235	033250	MOVE NEXT-NON-R-DEMANDS (CSL) TO WORK-DEMAND-COUNTERS-4.	PO3ALDZD
04236	033260	MOVE NON-RECURRING-DUMMY-NC (CSL) TO WORK-DEMAND-COUNTERS-9	PO3ALDZD
04237	033270	GO TO 2240-DEMAND-RATE-COMPUTATION.	PO3ALDZD

REPLACE

REPLACE

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04238 033280 2230-COUNT-NON-RECURRING-DWDS. P03AL DZD
04239 033290 IF SUBM GREATER THAN 13. P03AL DZD
04240 033300 GO TO 0770-READ-ACTIVITY. P03AL DZD
04241 033310 IF SUBTRACT-ON. P03AL DZD
04242 033320 SUBTRACT CURRENT-DEMAND-RATE FROM NON-RECURRING-DUMMY-QTY P03AL DZD
(CSL).
04243 033330 OTHERWISE P03AL DZD
04244 033340 ADD CURRENT-DEMAND-RATE TO NON-RECURRING-DUMMY-QTY (CSL). P03AL DZD
04245 033350 IF NON-RECURRING-DUMMY-QTY (CSL) IS NEGATIVE P03AL DZD
04246 033360 MOVE ZEROS TO NON-RECURRING-DUMMY-QTY (CSL). P03AL DZD
04247 033370 IF SUBTRACT-ON. P03AL DZD
04248 033380 SUBTRACT 1 FROM NR-DEMANDS (SUBM). P03AL DZD
04249 033390 OTHERWISE P03AL DZD
04250 033400 ADD 1 TO NR-DEMANDS (SUBM). P03AL DZD
04251 033410 ON SIZE ERROR P03AL DZD
04252 033420 MOVE 9 TO NR-DEMANDS (SUBM). P03AL DZD
04253 033430 IF NR-DEMANDS (SUBM) IS NEGATIVE P03AL DZD
04254 033440 MOVE 0 TO NR-DEMANDS (SUBM). P03AL DZD
04255 033450 MOVE WORK-DEMAND-COUNTERS-9 TO NON-RECURRING-DUMMY-ND (CSL). P03AL DZD
04256 033460 MOVE WORK-DEMAND-COUNTERS-4 TO NEXT-NON-R-DEMANDS (CSL). P03AL DZD
04257 033470 GO TO 2400-PRIORITY-CHECK. P03AL DZD
04258 033480 IF MANAGEMENT-CODE IN TRANSACTION = VC P03AL DZD
04259 033490 2231-DSS-N-R-DEMAND-CODE-TEST. P03AL DZD
04260 033500 OR 'X' P03AL DZD
04261 033510 IF DSS-N-R-QTY (CSL) = ZERO P03AL DZD
04262 033520 MOVE 13 TO EXCEPTION-TYPE P03AL DZD
04263 033530 GO TO 3790-EXCEPTION-PROCESS. P03AL DZD
04264 033540 ELSE P03AL DZD
04265 033550 MOVE 1 TO ADD-OR-SUBTRACT. P03AL DZD
04266 033560 ALTER 2280-FIND-DMD-RATE-COMPUTATION TO PROCEED TO P03AL DZD
232-COUNT-DSS-NON-RECUR. P03AL DZD
04267 033570 MOVE DSS-N-R-DEMANDS (CSL) TO WORK-DEMAND-COUNTERS-9 P03AL DZD
04268 033580 MOVE REST-DSS-N-R-DEMANDS (CSL) TO WORK-DEMAND-COUNTERS-4. P03AL DZD
04269 033590 GO TO 2240-DEMAND-RATE-COMPUTATION. P03AL DZD
04270 033600 IF SUBM GREATER THAN 13 P03AL DZD
04271 033610 IF SUBTRACT-ON. P03AL DZD
04272 033620 2232-COUNT-DSS-NON-RECUR. P03AL DZD
04273 033630 GO TO 0770-READ-ACTIVITY. P03AL DZD
04274 033640 SUBTRACT CURRENT-DEMAND-RATE FROM DSS-N-R-QTY (CSL) P03AL DZD
04275 033650 IF SUBTRACT-ON. P03AL DZD
04276 033660 ELSE P03AL DZD
04277 033670 ADD CURRENT-DEMAND-RATE TO DSS-N-R-QTY (CSL). P03AL DZD
04278 033680 IF DSS-N-R-QTY (CSL) IS NEGATIVE P03AL DZD
04279 033690 MOVE ZERO TO DSS-N-R-QTY (CSL). P03AL DZD
04280 033700 IF SUBTRACT-ON. P03AL DZD
04281 033710 SUBTRACT 1 FROM NR-DEMANDS (SUBM) P03AL DZD
04282 033720 OTHERWISE P03AL DZD
04283 033730 ADD 1 TO NR-DEMANDS (SUBM) P03AL DZD
04284 033740 ON SIZE ERROR P03AL DZD
04285 033750 MOVE 9 TO NR-DEMANDS (SUBM). P03AL DZD
04286 033760 IF NR-DEMANDS (SUBM) IS NEGATIVE P03AL DZD
04287 033770 MOVE 0 TO NR-DEMANDS (SUBM). P03AL DZD
04288 033780 MOVE WORK-DEMAND-COUNTERS-9 TO DSS-N-R-DEMANDS (CSL) P03AL DZD
04289 033790 MOVE WORK-DEMAND-COUNTERS-4 TO REST-DSS-N-R-DEMANDS (CSL). P03AL DZD
04290 033800

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REPLACE

04291 031810 GO TO 2400-PRIORITY-CHECK.  
 04292 031820 2234-DSS-RECUR-DEMAND-TEST.  
 04293 031830 IF MANAGEMENT-CODE IN TRANSACTION = 'C'  
 04294 031840 OR 'X'.  
 04295 031850 IF DSS-PFCUR-QTY (CSL) = 0  
 04296 031860 MOVE 13 TO EXCEPTION-TYPE,  
 04297 031870 GO TO 3700-EXCEPTION-PROCESS  
 04298 031880 ELSE  
 04299 031890 MOVE 1 TO ADD-OP-SUBTRACT.  
 04300 031900 ALTER 2280-END-OWN-RATE-COMPUTATION TO PROCEED TO  
 04301 031910 2235-COUNT-DSS-RECUR.  
 04302 031920 MOVE DSS-PFCUR (CSL) TO WORK-DEMAND-COUNTERS-9  
 04303 031930 MOVE PEST-DSS-RECUR (CSL) TO WORK-DEMAND-COUNTERS-4.  
 04304 031940 GO TO 2240-DEMAND-RATE-COMPUTATION.  
 04305 031950 2235-COUNT-DSS-RECUR.  
 04306 031960 IF SUBM GREATER THAN 13  
 04307 031970 GO TO 0770-READ-ACTIVITY.  
 04308 031980 IF SUBTRACT-ON.  
 04309 031990 SUBTRACT CURRENT-DEMAND-RATE FROM DSS-RECUR-QTY (CSL)  
 04310 032000 ELSE  
 04311 034010 ADD CURRENT-DEMAND-RATE TO DSS-RECUR-QTY (CSL).  
 04312 034020 IF DSS-RECUR-QTY (CSL) NEGATIVE  
 04313 034030 MOVE ZERO TO DSS-RECUR-QTY (CSL).  
 04314 034040 IF SUBTRACT-ON  
 04315 034050 SUBTRACT 1 FROM NR-DEMANDS (SUBM)  
 04316 034060 OTHERWISE  
 04317 034070 ADD 1 TO NR-DEMANDS (SUBM)  
 04318 034080 ON SIZE ERROR  
 04319 034090 MOVE 9 TO NR-DEMANDS (SUBM).  
 04320 034100 IF NR-DEMANDS (SUBM) IS NEGATIVE  
 04321 034110 MOVE 0 TO NR-DEMANDS (SUBM).  
 04322 034120 MOVE WORK-DEMAND-COUNTERS-9 TO DSS-RECUR (CSL)  
 04323 034130 MOVE WORK-DEMAND-COUNTERS-4 TO REST-DSS-RECUR (CSL).  
 04324 034140 GO TO 2400-PRIORITY-CHECK.  
 04325 034150  
 04326 034160\* NOTE THE TERM 'ALPHA' USED IN THE FOLLOWING PARAGRAPHS  
 04327 034170\* REFERS TO THE SMOOTHING FACTOR USED IN COMPUTING THE  
 04328 034180\* UNIT DEMAND RATES FOR THIS PROCESSING PERIOD; IT IS  
 04329 034190\* COMPUTED WHILE PROCESSING THE MACRO CONTAINING THE  
 04330 034200\* NUMBER OF PERIODS TO BE INCLUDED IN THIS FORECAST.  
 04331 034210  
 04332 034220 2240-DEMAND-RATE-COMPUTATION.  
 04333 034230 IF DATE-OF-ONL IN TRANSACTION NOT LESS THAN BEGIN-THIS-PERIOD  
 04334 034240 MOVE 1 TO SUM,  
 04335 034250 GO TO 2270-SMOOTH-DEMAND-RATE.  
 04336 034260 IF DATE-OF-ONL IN TRANSACTION NOT GREATER THAN 360-DAYS-AGO  
 04337 034270 MOVE ZERO TO CURRENT-DEMAND-RATE,  
 04338 034280 MOVE 0014 TO SUM,  
 04339 034290 GO TO 2280-END-OWN-RATE-COMPUTATION.  
 04340 034300 IF DAY IN TRANSACTION GREATER THAN TODAY,  
 04341 034310 MOVE 0013 TO SUM,  
 04342 034320 OTHERWISE  
 04343 034330 MOVE THIS-PERIOD TO SUM.

REPLACE



04397	034870	MOVE WORK-DEMAND-COUNTERS-9 TO	P03AL02D
04398	034390	NUMBER-DEMANDS-LAST-9-PERIODS IN WORK-SURRECORD.	P03AL02D
04399	034490	MOVE WORK-DEMAND-COUNTERS-4 TO	P03AL02D
04400	034920	NUMBER-DEMANDS-PREV-4-PERIODS IN WORK-SURRECORD.	P03AL02D
04401	034910	GO TO 2400-PRIORITY-CHECK.	P03AL02D
04402	034920	2320-DONT-COUNT-DHA-DEMAND.	P03AL02D
04403	034930	ALTER 2300-END-ADD-DEMAND-RATE TO PROCEED TO	P03AL02D
04404	034940	2310-ADD-UNIT-DEMAND.	P03AL02D
04405	034950	GO TO 0770-FFAO-ACTIVITY.	P03AL02D
04406	034960	2330-SUBTRACT-DEMAND-RATE.	P03AL02D
04407	034970	SUBTRACT CURRENT-DEMAND-RATE FROM UNIT-DEMAND-RATE IN	P03AL02D
04408	034980	WORK-SURRECORD.	P03AL02D
04409	034990	IF UNIT-DEMAND-RATE IN WORK-SURRECORD IS NEGATIVE,	P03AL02D
04410	035000	MOVE ZERO TO UNIT-DEMAND-RATE IN WORK-SURRECORD.	P03AL02D
04411	035010	2340-END-SUBTRACT-DEMAND-RATE.	P03AL02D
04412	035020	GO TO 2350-SUBTRACT-INIT-DEMAND.	P03AL02D
04413	035030	2350-SUBTRACT-INIT-DEMAND.	P03AL02D
04414	035040	IF SUM GREATER THAN 13,	P03AL02D
04415	035050	NR NR-DEMANDS (SUM) = ZERO,	P03AL02D
04416	035060	GO TO 0770-READ-ACTIVITY.	P03AL02D
04417	035070	SUBTRACT 1 FROM NR-DEMANDS (SUM),	P03AL02D
04418	035080	MOVE WORK-DEMAND-COUNTERS-9 TO	P03AL02D
04419	035090	NUMBER-DEMANDS-LAST-9-PERIODS IN WORK-SURRECORD.	P03AL02D
04420	035100	MOVE WORK-DEMAND-COUNTERS-4 TO	P03AL02D
04421	035110	NUMBER-DEMANDS-PREV-4-PERIODS IN WORK-SURRECORD.	P03AL02D
04422	035120	GO TO 2400-PRIORITY-CHECK.	P03AL02D
04423	035130	2360-DONT-COUNT-DHA-CANCEL.	P03AL02D
04424	035140	ALTER 2340-END-SURFECT-DEMAND-RATE TO PROCEED TO	P03AL02D
04425	035150	2350-SUBTRACT-UNIT-DEMAND.	P03AL02D
04426	035160	GO TO 0770-READ-ACTIVITY.	P03AL02D
04427	035170	2370-DHA-PROCESS.	P03AL02D
04428	035180	ALTER 2280-END-DMN-RATE-COMPUTATION TO PROCEED TO	P03AL02D
04429	035190	2200-ADD-DEMAND-RATE.	P03AL02D
04430	035200	IF MANAGEMENT-CODE IN TRANSACTION = SPACES	P03AL02D
04431	035210	GO TO 2180-RECURRING-DEMAND-CHECK.	P03AL02D
04432	035220	IF MANAGEMENT-CODE IN TRANSACTION = 'D',	P03AL02D
04433	035230	ALTER 2100-END-ADD-DEMAND-RATE TO PROCEED TO	P03AL02D
04434	035240	2320-DONT-COUNT-DHA-DEMAND.	P03AL02D
04435	035250	GO TO 2180-RECURRING-DEMAND-CHECK.	P03AL02D
04436	035260	2380-TEST-MANAGEMENT-CODE.	P03AL02D
04437	035270	IF MANAGEMENT-CODE IN TRANSACTION = 'C' OR 'X',	P03AL02D
04438	035280	GO TO 2385-SEARCH-DEMAND-PERIODS.	P03AL02D
04439	035290	GO TO 2180-RECURRING-DEMAND-CHECK.	P03AL02D
04440	035300	2385-SEARCH-DEMAND-PERIODS.	P03AL02D
04441	035310	MOVE ZERO TO PERIOD-COUNTER.	P03AL02D
04442	035320	PERFORM 2387-SCAN THRU 2387-FXIT	P03AL02D
04443	035330	VARYING SUM FROM +1 BY -1	P03AL02D
04444	035340	UNTIL SUM LESS THAN +1.	P03AL02D
04445	035350	IF PERIOD-COUNTER LESS THAN +1	P03AL02D
04446	035360	MOVE 13 TO EXCEPTION-TYPE	P03AL02D
04447	035370	GO TO 3790-EXCEPTION-PROCESS.	P03AL02D
04448	035380	MOVE 1 TO ADD-OR-SUBTRACT.	P03AL02D
04449	035390	ALTER 2280-END-DMN-RATE-COMPUTATION TO PROCEED TO	P03AL02D

REPLACE

05563	046530	IF OUT-OF-SEQUENCE	P03AL020
05564	046540	GO TO 3660-MERGE-UNMATCHED-RECORD.	P03AL020
05565	046550	IF SUPPLY-STUDY-SCHEDULE,	P03AL020
05566	046560	AND UNIT IN TRANSACTION = 1000,	P03AL020
05567	046570	OR UNIT-DATA-REQUEST,	P03AL020
05568	046580	MOVE 3 TO EXCEPTION-TYPE,	P03AL020
05569	046590	GO TO 3790-EXCEPTION-PROCESS.	P03AL020
05570	046600	IF NOT CATALOG-CHANGE	P03AL020
05571	046610	GO TO 3590-INVALID-MEMO-MATCH.	P03AL020
05572	046620	IF LAST-DIGIT OF TRANS-CODE GREATER THAN 2,	P03AL020
05573	046630	GO TO 0770-REAR-ACTIVITY.	P03AL020
05574	046640	TRANSFORM TRANS-CODE FROM 3456789 TO 1122122.	P03AL020
05575	046650	IF SECOND-DIGIT OF TRANS-CODE NOT = 2	P03AL020
05576	046660	GO TO 3450-TEST-MEMO-CHANGE.	P03AL020
05577	046670	MOVE UNIT-OF-ISSUE IN TRANSACTION TO FRINGE-UNIT-OF-ISSUE	P03AL020
05578	046680	IN FRINGE-MEMO,	P03AL020
05579	046690	MULTIPLY U-1-CONVERSION-FACTOR IN TRANSACTION BY QUANTITY	P03AL020
05580	046700	IN FRINGE-MEMO ROUNDED.	P03AL020
05581	046710	3450-TEST-MEMO-CHANGE.	P03AL020
05582	046720	IF LAST-DIGIT OF TRANS-CODE NOT = 1,	P03AL020
05583	046730	GO TO 0770-HEAD-ACTIVITY.	P03AL020
05584	046740	MOVE STOCK-NUMBER IN WORK-MASTER TO STOCK-NUMBER IN	P03AL020
05585	046750	WORK-XREF-RECORD.	P03AL020
05586	046760	MOVE NEW-STOCK-NUMBER IN TRANSACTION TO REF-STOCK-NUMBER IN	P03AL020
05587	046770	WORK-XREF-RECORD.	P03AL020
05588	046780	MOVE NEW-TYPE-STOCK-NR IN TRANSACTION TO REF-STOCK-NR-TYPE	P03AL020
05589	046790	IN WORK-XREF-RECORD.	P03AL020
05590	046800	MOVE *X TO RECORD-10 IN WORK-XREF-RECORD.	P03AL020
05591	046810	MOVE THIRDS-DATE TO DATE-LAST-ACTIVITY IN WORK-XREF-RECORD.	P03AL020
05592	046820	MOVE ZEROS TO DATE-LAST-SUPPLY-STUDY IN WORK-XREF-RECORD.	P03AL020
05593	046830	NUMBER-OF-PLL-UNITS IN WORK-XREF-RECORD.	P03AL020
05594	046840	MOVE SPACES TO TRANSACTION.	P03AL020
05595	046850	MOVE REF-STOCK-NUMBER IN WORK-XREF-RECORD TO STOCK-NR IN	P03AL020
05596	046860	TRANSACTION.	P03AL020
05597	046870	MOVE UNIT-10 IN FRINGE-MEMO TO UNIT-10 IN TRANSACTION.	P03AL020
05598	046880	MOVE UNIT-TYPE IN FRINGE-MEMO TO UNIT-TYPE IN TRANSACTION.	P03AL020
05599	046890	MOVE TRANSACTION-CODE IN FRINGE-MEMO TO TRANSACTION-CODE IN	P03AL020
05600	046900	TRANSACTION.	P03AL020
05601	046910	MOVE PRIORITY-CODE IN FRINGE-MEMO TO PRIORITY-CODE IN	P03AL020
05602	046920	TRANSACTION.	P03AL020
05603	046930	MOVE FRINGE-UNIT-OF-ISSUE IN FRINGE-MEMO TO UNIT-OF-ISSUE	P03AL020
05604	046940	IN TRANSACTION.	P03AL020
05605	046950	MOVE SOURCE-OF-SUPPLY IN FRINGE-MEMO TO SOURCE-OF-SUPPLY IN	P03AL020
05606	046960	TRANSACTION.	P03AL020
05607	046970	MOVE DATE-ORIGIN IN FRINGE-MEMO TO DATE-ORIGIN IN TRANSACTION.	P03AL020
05608	046980	MOVE DEMAND-CODE IN FRINGE-MEMO TO DEMAND-CODE IN	P03AL020
05609	046990	TRANSACTION.	P03AL020
05610	047000	MOVE QUANTITY IN FRINGE-MEMO TO QUANTITY IN TRANSACTION.	P03AL020
05611	047010	MOVE WORK-XREF-RECORD TO CROSS-REFERENCE.	P03AL020
05612	047020	GO TO 3840-WRITE-REENTRY-FILE.	P03AL020
05613	047030	3460-ADD-RECORD.	P03AL020
05614	047040	IF DUMMY-LEVELS-ADD	P03AL020
05615	047050	GO TO 3470-ADD-UNIT-SUBRECORD.	P03AL020

← INSERT

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05669	047590	MOVE UNIT-TYPE IN FRINGE-MEMO TO UNIT-TYPE IN TRANSACTION.	P03AL020
05670	047600	MOVE TRANSACTION-CODE IN FRINGE-MEMO TO TRANSACTION-CODE IN TRANSACTION.	P03AL020
05671	047610	MOVE PRIORITY-CODE IN FRINGE-MEMO TO PRIORITY-CODE IN TRANSACTION.	P03AL020
05672	047620	MOVE QUANTITY IN FRINGE-MEMO TO QUANTITY IN TRANSACTION.	P03AL020
05673	047630	MOVE DATE-ORIGIN IN FRINGE-MEMO TO DATE-ORIGIN IN TRANSACTION.	P03AL020
05674	047640	MOVE CLEAR-CODE IN FRINGE-MEMO TO CLEAR-CODE IN TRANSACTION.	P03AL020
05675	047650	MOVE SOURCE-OF-SUPPLY IN FRINGE-MEMO TO SOURCE-OF-SUPPLY IN TRANSACTION.	P03AL020
05676	047660	MOVE USS-FLAG IN FRINGE-MEMO TO USS-FLAG IN TRANSACTION.	P03AL020
05677	047670	MOVE ZERO TO SAFETY-LEVEL-FLAG IN TRANSACTION.	P03AL020
05678	047680	MOVE 1 TO TRANS-FLAG.	P03AL020
05679	047690	MOVE W577-CURR-TRANS-SEQ TO W577-STOCK-TRANS-SEQ.	P03AL020
05680	047700	MOVE STOCK-NO IN TRANSACTION TO TRANS-SEQ-STOCK-NO.	P03AL020
05681	047710	MOVE UNIT-ID IN TRANSACTION TO TRANS-SEQ-UNIT-ID.	P03AL020
05682	047720	MOVE TRANSACTION-CODE IN TRANSACTION TO TRANS-SEQ-TRANS-CODE.	P03AL020
05683	047730	MOVE DATE-ORIGIN IN TRANSACTION TO TRANS-SEQ-DATE-ORIGIN.	P03AL020
05684	047740	MOVE TRANS-SEQ-NO IN TRANSACTION TO TRANS-SEQ-TRANS-SEQ.	P03AL020
05685	047750	MOVE STOCK-HEADER-DATA TO TRANS-SEQ-HEADER.	P03AL020
05686	047760	MOVE STOCK-HEADER-DATA TO TRANS-SEQ-HEADER.	P03AL020
05687	047770	MOVE STOCK-HEADER-DATA TO TRANS-SEQ-HEADER.	P03AL020
05688	047780	MOVE STOCK-HEADER-DATA TO TRANS-SEQ-HEADER.	P03AL020
05689	047790	MOVE STOCK-HEADER-DATA TO TRANS-SEQ-HEADER.	P03AL020
05690	047800	GO TO 0830-MATCH-DAM.	P03AL020
05691	047810	3550-FRINGE-MEMO-HOUSEKEEPING.	P03AL020
05692	047820	IF QUANTITY IN FRINGE-MEMO = 0	P03AL020
05693	047830	GO TO 0600-READ-DAM.	P03AL020
05694	047840	IF DEFAND-CODE IN FRINGE-MEMO = 'N'	P03AL020
05695	047850	GO TO 3560-TEST-NCN-R-FRINGE.	P03AL020
05696	047860	IF DATE-ORIGIN IN FRINGE-MEMO IS LESS THAN RECUR-MACRO	P03AL020
05697	047870	GO TO 0800-READ-DAM.	P03AL020
05698	047880	GO TO 3570-WRITE-FRINGE-MEMO.	P03AL020
05699	047890	3560-TEST-NCN-R-FRINGE.	P03AL020
05700	047900	IF DATE-ORIGIN IN FRINGE-MEMO IS LESS THAN NON-RECUR-MACRO	P03AL020
05701	047910	GO TO 0800-READ-DAM.	P03AL020
05702	047920	3570-WRITE-FRINGE-MEMO.	P03AL020
05703	047930	ALTER END-OUTPUT TO PROCEED TO 0800-READ-DAM.	P03AL020
05704	047940	GO TO MOVE-INPUT-RECORD-CUT.	P03AL020
05705	047950	3580-MATCH-TRANS-PROCESS.	P03AL020
05706	047960	MOVE 1 TO STOCK-RECORD-FLAG.	P03AL020
05707	047970	MOVE SPACES TO COSMOS-HEADER.	P03AL020
05708	047980	IF OUT-OF-SEQUENCE	P03AL020
05709	047990	GO TO 3600-MERGE-UNMATCHED-RECORD.	P03AL020
05710	048000	IF PLL-ADDITION	P03AL020
05711	048010	OR UNIT-TRANSFER	P03AL020
05712	048020	GO TO 3630-BUILD-SKELETON-RECORD.	P03AL020
05713	048030	IF REQUEST-FOR-ISSUE	P03AL020
05714	048040	GO TO 3610-CREATE-FRINGE-MEMO.	P03AL020
05715	048050	IF DEMAND-HISTORY	P03AL020
05716	048060	GO TO 3620-FRINGE-DMA-PROCESS.	P03AL020
05717	048070	IF DUMMY-LEVELS-ADD	P03AL020
05718	048080	GO TO 3640-CONTINUE-SKELETON.	P03AL020
05719	048090	IF CATALOG-CHANGE.	P03AL020
05720	048100	AND LAST-DIGIT OF TRANS-CODE = 1.	P03AL020
05721	048110	GO TO 3670-BUILD-XREF-RECORD.	P03AL020

← INSERT  
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# COBOL PROGRAM SHEET

PROGRAM		SYSTEM		SHEET		OF															
PROGRAMMER		ST NO.		DATE		IDENT.															
P03ALD				27 MAR 1978		73															
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### III. Program P04ALDAB - Control Program for Supply Control Studies

#### 1. Current Processing

Program P03ALD, when selecting items for Supply Control Studies, counts both DSS and non-DSS demands to determine whether an item is demand qualified. If the item is demand qualified on the basis of total demands, a supply control study request is initiated with a reason code of 46, "demand qualified". This reason code is also set for demand qualified items when the supply control study is initiated by the manager. The study requests are passed to Program P04ALD.

Program P04ALD does not use the levels reason code in the determination of demand qualification and correctly uses only non-DSS demands in levels computations. New levels will be computed, but if the item is not demand qualified on the basis of non-DSS demands, the requisitioning objective will be zero, with Stockage List Code 'Z'. See Appendix E, Page E-8.

#### 2. Current Results

For non-stockage items with DSS demands greater than the minimum requirement for non-DSS qualification, new levels are being computed every time a DSS demand is processed. This does not invalidate the processing in any way, but creates an increased workload as follows:

a. Study Requests are unnecessarily passed from P03ALD to P04ALD within the Demand Analysis System.

b. Levels are recomputed for these items, passed to the Basic Cycle for update of the Availability Balance File and then recycled to the Demand Analysis System for update of the DMF, although there are no actual changes to the levels.

Additionally, Supply Control Studies are being produced with a levels reason of "demand qualified" but a requisitioning objective of zero and a Stockage List Code of 'Z'. Although the levels are correct, this discrepancy gives the impression of a systems malfunction.

### 3. Corrective Action

This problem cannot be satisfactorily corrected without an extensive revision of Program P03ALD to conform with all changes to Program P04ALD and subsequent decisions concerning DSS processing (See Section V, Recommendations).

The printing of "demand qualified" as a levels reason with a zero requisitioning objective on manager requested Supply Control Studies can be suppressed by changing one statement in Program P04ALDAB. Coding changes are shown on Page A-19. Supply Control Studies are not printed automatically when the stockage list code is 'Z' both before and after the RO computation. However, the levels are recycled. Page A-20 gives coding to suppress the recycling of zero levels when the levels reason is "demand qualified".

02118 014200 IF NUMBER-OF-CSLS IS EQUAL TO ZERO  
 02119 014201 GO TO K050-LEVELS.  
 02120 014210 MOVE 1 TO CSL-INDEX, CSL-POINTS.  
 02121 014280 R082-COMPRESS-L00P.  
 02122 014291 MOVE CSL-SUBRECORD (CSL-POINTS) TO WORK-CSL.  
 02123 014300 IF OLD-STORAGE-LIST-CODE ACT = LOW-VALUES,  
 02124 014310 GO TO R089-MOVE-SUBRECORD.  
 02125 014320 R085-HUNT-NEXT.  
 02126 014330 ADD 1 TO CSL-POINTS.  
 02127 014340 GO TO R082-COMPRESS-L00P.  
 02128 014350 R089-MOVE-SUBRECORD.  
 02129 014360 IF CSL-INDEX NOT = CSL-POINTS,  
 02130 014370 MOVE WORK-CSL TO CSL-SUBRECORD (CSL-INDEX).  
 02131 014380 ADD 1 TO CSL-INDEX.  
 02132 014390 IF CSL-INDEX IS NOT > NUMBER-OF-CSLS,  
 02133 014400 GO TO R085-HUNT-NEXT.  
 02134 014410 C032-STORAGE-COMPUTATION SECTION.  
 02135 014420 IF UNIT-PRICE-CENTS NOT GREATER THAN ZERO,  
 02136 014430 MOVE .25 TO UNIT-PRICE-CENTS.  
 02137 014440 GO TO CALL-D0403.  
 02138 014450 CALL-D0403.  
 02139 014460\* CALL P054ATPXL USING W04-M00LUF.  
 02140 014470 CALL P024C00P USING MACRO-TABLES, LVLS-RECORD, SGS-AREA,  
 02141 014480 PARAMETERS.  
 02142 014490 IF ERROR-FLAG IS NOT EQUAL TO SPACES,  
 02143 014500 GO TO K700-ERROR.  
 02144 014510 J003-TYPE-OF-STUDY.  
 02145 014520 MOVE '2' TO L-STUDY-TYPE IN LVLS-RECORD.  
 02146 014530 MOVE TODAY'S-DATE TO L-RELEASE-DATE IN LVLS-RECORD.  
 02147 014540 IF SUPPLY-CONTROL-STUDY-CODE LESS THAN 1000,  
 02148 014550 GO TO J010-CHECK-ERINVE.  
 02149 014560 MOVE 60 TO SGS-REASON.  
 02150 014570 SUBTRACT 1000 FROM SUPPLY-CONTROL-STUDY-CODE.  
 02151 014580 IF SUPPLY-CONTROL-STUDY-CODE = ZERO,  
 02152 014590 MOVE 50 TO SUPPLY-CONTROL-STUDY-CODE.  
 02153 014600 GO TO K010-WRITE-STUDY.  
 02154 014610 J010-CHECK-ERINVE.  
 02155 014620 IF COSMOS-STORAGE-LIST-CODE = '2',  
 02156 014630 ADD L-STORAGE-LIST-CODE IN LVLS-RECORD = '2',  
 02157 014640 GO TO K050-LEVELS-ONLY.  
 02158 014650 IF AUTHORITY-C030L GREATER THAN 4,  
 02159 014660 MOVE 25 TO SGS-REASON.  
 02160 014670 GO TO K010-WRITE-STUDY.  
 02161 014680 IF L-SITE-DELETED IN LVLS-RECORD NOT EQUAL TO '1',  
 02162 014690 GO TO J015-NOT-DELETED.  
 02163 014700 IF SUPPLY-CONTROL-STUDY-CODE GREATER THAN 32  
 02164 014710 MOVE 32 TO SUPPLY-CONTROL-STUDY-CODE.  
 02165 014720 MOVE 50 TO SGS-REASON.  
 02166 014730 GO TO K010-WRITE-STUDY.  
 02167 014740 J015-NOT-DELETED.  
 02168 014750 IF L-SITE-ADDED IN LVLS-RECORD NOT EQUAL TO '1',  
 02169 014760 GO TO J020-NOT-ADDED.  
 02170 014770 IF SUPPLY-CONTROL-STUDY-CODE GREATER THAN 31

← REPLACE (PAGE 11-12)

← REPLACE (PAGE 11-12)



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PROGRAM		PROGRAMMER		ST. NO.		SYSTEM		DATE		SHEET		OF	
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PAGE	SERIAL	1	2	3	4	5	6	7	8	9	10	11	12
1	3	A	B	12	16	20	24	28	32	36	40	44	48
2	4	IN PARAGRAPH J000-TYPE-OF-STUDY											
3	5	ADD "OR 46" TO EXISTING STATEMENT											
4	6	IF SUPPLY-CONTROL-STUDY-CODE = ZERO OR 46											
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#### IV. Program P04ALDBC - Levels Computations

##### 1. Current Processing

There are two separate minimum buy computations in program P04ALDBC. The first computation occurs in the "operating level" (OL) section of the program if no shelf life is specified and is accessed only for operating levels which exceed the maximum operating level entered in Systems Control EOQA. If the computed OL is less than the minimum OL, the shelf life test is also bypassed.

The second computation takes place as a final check on all items of low unit price (except for one specific case of fixed RO equal to zero). The Shelf Life of the item is not considered on the second computation.

##### 2. Current Results

(a) It is possible for the assigned operating level for a perishable item to exceed the maximum shelf life operating level for the item, as entered in systems control MSOL. This can occur:

(1) If the computer OL is equal to or less than the EOQ minimum (computation 1 above).

(2) If the "minimum buy" computed OL exceeds the shelf life maximum OL (computation 2 above).

The shelf life inconsistencies have very little effect on systems performance due to the low value of the "minimum buy" entry (\$1.20) and due to the limited number of perishable items in relation to non-perishable items.

(b) It is possible for a minimum buy RO to be assigned when the RO was computed or fixed at zero.

This may have a minor effect by inflating the RO (for low value items) without any gain in supply performance.

##### 3. Corrective Action

(a) The OL computation should be changed to check the maximum shelf life OL for all items and substitute the shelf life OL whenever it is less than the computer OL and/or the EOQ maximum OL. (Page A-25).

(b) If the above corrections are made, the OL minimum buy will be correct and the second minimum buy computation should be bypassed (Page A-27).

(c) The second minimum buy computation should be bypassed if the item there has a shelf life code or if the RO has been set to zero (Page A-28).

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00899 004480 MOVE WORK-LVL TO LVL-SUBRECORD (CSL-INDEX). P04ALDHC
00900 004490 MOVE WORK-CSL TO CSL-SUBRECORD (CSL-INDEX). P04ALDHC
00901 004500 ADD 1 TO CSL-INDEX. P04ALDHC
00902 004510 IF CSL-INDEX IS NOT > NUMBER-OF-CSLS. P04ALDHC
00903 004520 GO TO 0200-COMPUTE-DEMAND-RATE. P04ALDHC
00904 004530 E070-OPERATING-LEVEL SECTION. P04ALDHC
00905 004540 MOVE ZEROES TO OPERATING-LEVEL-SUM, DEMAND-RATE-SUM. P04ALDHC
00906 004550 MOVE 1 TO LINE-POINTER, CSL-INDEX, UTILITY-INDEX. P04ALDHC
00907 004560 E060-FIND-K-SUB-C. P04ALDHC
00908 004570 IF FIRST-DIGIT OF FIA-CODE = E04A-CUSHUS-SOURCE P04ALDHC
00909 004580 (LINE-POINTER). P04ALDHC
00910 004590 GO TO E070-E00-FIA-SEARCH. P04ALDHC
00911 004600 IF LINE-POINTER NOT EQUAL TO E04A-LIMIT 77101
00912 004610 ADD 1 TO LINE-POINTER. 77101
00913 004620 GO TO E060-FIND-K-SUB-C. 77101
00914 004630 MOVE *BAD FIA CODE (E06A)* TO ERR-ENTRY. P04ALDHC
00915 004640 MOVE 06 TO ERR-NR. P04ALDHC
00916 004650 MOVE STOCK-NR IN HEADER-DATA TO ERR-STK-NO. P04ALDHC
00917 004660 MOVE FIRST-DIGIT OF FIA-CODE TO ERR-CODE. P04ALDHC
00918 004670 GO TO RETURN-PARAGRAPH. P04ALDHC
00919 004680 E070-END-FIA-SEARCH. P04ALDHC
00920 004690 EXIT. P04ALDHC
00921 004700 E130-FIND-MAX-F-SUB-P. P04ALDHC
00922 004710 IF SHELF-LIFE-CODE = MSCL-PERISH-CODE (UTILITY-INDEX) P04ALDHC
00923 004720 GO TO E260-COMPUTE-FCQ. P04ALDHC
00924 004730 IF UTILITY-INDEX NOT EQUAL TO MSCL-LIMIT 77101
00925 004740 ADD 1 TO UTILITY-INDEX. 77101
00926 004750 GO TO E130-FIND-MAX-F-SUB-P. 77101
00927 004760 MOVE *BAD SHELF LIFE CODE* TO EPR-ENTRY. P04ALDHC
00928 004770 MOVE 07 TO ERR-IF. P04ALDHC
00929 004780 MOVE STOCK-NR IN HEADER-DATA TO ERR-STK-NO. P04ALDHC
00930 004790 MOVE SHELF-LIFE-CODE TO ERR-CODE. 77101
00931 004800 GO TO RETURN-PARAGRAPH. P04ALDHC
00932 004810 E200-COMPUTE-FCQ. P04ALDHC
00933 004820 MOVE LVL-SUBRECORD (CSL-INDEX) TO WORK-LVL. 77101
00934 004830 IF WORK-DSS-Q-FLAG IN WORK-LVL EQUAL TO *0* 77101
00935 004840 MOVE 0 TO RATE-FCQ-Q-L IN WORK-LVL. 77101
00936 004850 GO TO F710-SUMMATION. P04ALDHC
00937 004860 IF RATE-FCQ-C-L IN WORK-LVL = ZERO P04ALDHC
00938 004870 GO TO E710-SUMMATION. P04ALDHC
00939 004880 DIVIDE UNIT-PRICE-CENTS INTO RATE-FOR-U-L IN WORK-LVL P04ALDHC
00940 004890 GIVING SORT-ARGUMENT. P04ALDHC
00941 004900 ALTER SORT-RETURN TO PROCEED TO E250-COMPUTE-Q-SUB-F. P04ALDHC
00942 004910 GO TO SORT-ROUTINE. P04ALDHC
00943 004920 E250-COMPUTE-Q-SUB-F. P04ALDHC
00944 004930 MULTIPLY K-SUB-C (LINE-POINTER) BY SORT-ARGUMENT GIVING EQ. P04ALDHC
00945 004940 DIVIDE RATE-FOR-U-L IN WORK-LVL INTO EQ. GIVING P04ALDHC
00946 004950 MONTHS-OF-SUPPLY-IN-EQ. P04ALDHC
00947 004960 IF MONTHS-OF-SUPPLY-IN-EQ IS NOT LESS THAN MAX-F-SUB-C P04ALDHC
00948 004970 (LINE-POINTER) P04ALDHC
00949 004980 GO TO E370-FIND-E-SUB-L. P04ALDHC
00950 004990 IF MONTHS-OF-SUPPLY-IN-EQ IS NOT GREATER THAN MIN-C-SUB-C P04ALDHC
00951 005000 (LINE-POINTER) P04ALDHC

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← INSERT

← INSERT

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00952 005010  GO TO E510=JUN1-E-SUB-I.
00953 005020  MOVE EQ TO CSL-OPERATING-LEVEL IN WORK-LVL.
00954 005030  MOVE MONTHS-OF-SUPPLY-IN-EGG TO MO-SUPPLY-IN-G-L.
00955 005040  GO TO E440=COMPARE-E-SUB-G.
00956 005050  E510=JUN1-E-SUB-I.
00957 005060  IF MONTHS-OF-SUPPLY-IN-EGG NOT GREATER THAN MIN-E-SUB-G
00958 005070  (LINE-POINTER)
00959 005080  MOVE MIN-E-SUB-G (LINE-POINTER) TO MO-SUPPLY-IN-C-L THEN
00960 005090  GO TO E670=COMP-OP-LVL.
00961 005100  IF SHELF-LIFE-CODE = ZERO,
00962 005110  CR SHELF-LIFE-CODE EQUAL TO SPACE
00963 005120  GO TO E530=COMPUTE-E-SUB-B.
00964 005130  E440=COMPARE-E-SUB-G.
00965 005140  IF MONTHS-OF-SUPPLY-IN-EGG IS LESS THAN MAX-E-SUB-G
00966 005150  (LINE-POINTER)
00967 005160  GO TO E620=CCAPARE.
00968 005170  IF MONTHS-OF-SUPPLY-IN-EGG IS LESS THAN MAX-E-SUB-P
00969 005180  (UTILITY-INDEX)
00970 005190  MOVE MAX-E-SUB-G (LINE-POINTER) TO MO-SUPPLY-IN-C-L THEN
00971 005200  GO TO E670=COMP-OP-LVL.
00972 005210  IF MAX-E-SUB-G (LINE-POINTER) IS LESS THAN MAX-E-SUB-P
00973 005220  (UTILITY-INDEX)
00974 005230  MOVE MAX-E-SUB-G (LINE-POINTER) TO MO-SUPPLY-IN-C-L THEN
00975 005240  GO TO E670=COMP-OP-LVL.
00976 005250  MOVE MAX-E-SUB-P (UTILITY-INDEX) TO MO-SUPPLY-IN-G-L.
00977 005260  GO TO E670=COMP-OP-LVL.
00978 005270  E530=COMPUTE-E-SUB-B.
00979 005280  COMPUTE E-SUB-B ROUNDED = MIN-B (LINE-POINTER) /
00980 005290  (E410-E-SUB-L * UNIT-PRICE-CENT).
00981 005300  IF MAX-E-SUB-G (LINE-POINTER) IS GREATER THAN E-SUB-B
00982 005310  MOVE MAX-E-SUB-G (LINE-POINTER) TO MO-SUPPLY-IN-C-L THEN
00983 005320  GO TO E670=COMP-OP-LVL.
00984 005330  MOVE E-SUB-B TO MO-SUPPLY-IN-U-L.
00985 005340  GO TO E670=COMP-OP-LVL.
00986 005350  E620=COMPARE.
00987 005360  IF MONTHS-OF-SUPPLY-IN-EGG IS LESS THAN MAX-E-SUB-P
00988 005370  (UTILITY-INDEX)
00989 005380  MOVE MONTHS-OF-SUPPLY-IN-EGG TO MO-SUPPLY-IN-C-L THEN
00990 005390  GO TO E670=COMP-OP-LVL.
00991 005400  MOVE MAX-E-SUB-P (UTILITY-INDEX) TO MO-SUPPLY-IN-G-L.
00992 005410  E670=COMP-OP-LVL.
00993 005420  IF MO-SUPPLY-IN-G-L GREATER THAN OP-LEV-LIMIT,
00994 005430  MOVE OP-LEV-LIMIT TO MO-SUPPLY-IN-C-L.
00995 005440  COMPUTE CSL-OPERATING-LEVEL IN WORK-LVL = MO-SUPPLY-IN-U-L
00996 005450  * RAIL-E-SUB-U-L IN WORK-LVL.
00997 005460  E710=SUMMATION.
00998 005470  IF CSL-OPERATING-LEVEL IN WORK-LVL = ZERO
00999 005480  MOVE ZERO-LVLS-STORAGE (CSL-INDEX) TO WORK-ZERO-LVLS-AREA,
01000 005490  MOVE 1 TO ZERO-ZI.
01001 005500  MOVE WORK-ZERO-LVLS-AREA TO ZERO-LVLS-STORAGE (CSL-INDEX).
01002 005510  ADD CSL-OPERATING-LEVEL IN WORK-LVL TO OPERATING-LEVEL-SUM.
01003 005520  ADD RATE-FOR-U-L IN WORK-LVL TO DEMAND-RATE-SUM.
01004 005530  MOVE WORK-LVL TO LVL-SUMRECORD (CSL-INDEX).

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01429	009780	PERFORM 1700-RECOMPUTE-ITEM-SLC IN 1000-DETAILS.	76329
01430	009790	MOVE LVL-SUBRECORD (CSL-INDEX) TO WORK-LVL.	76330
01431	009800	MOVE TABLE-SLC (OLD-SLC-PRIORITY) TO L-STOCK-LEVEL-LIST-CODE.	76331
01432	009810	GO TO 1500-HUNT-NEXT-CSL.	76332
01433	009820	1325-WITHIN-S.	76333
01434	009830	SUBTRACT 1 FROM HIGH-LEVEL-CSL-RC GIVING SP-CHECK.	76334
01435	009840	MOVE SP-CHECK TO SP-CHECK-2.	76335
01436	009850	GO TO 1375-RP-SP-CHECK-2.	76336
01437	009860	1350-RP-SP-CHECK-2 + 1, 1, 1.	76337
01438	009870	MULTIPLY MINIMUM-CSL-RC BY FROM-RF GIVING SP-CHECK.	76338
01439	009880	MULTIPLY MINIMUM-CSL-RC BY FROM-RF GIVING SP-CHECK.	76339
01440	009890	1375-RP-SP-CHECK-2.	76340
01441	009900	IF SP-CHECK IS GREATER THAN RECORDER-POINT.	76341
01442	009910	MOVE SP-CHECK TO RECORDER-POINT.	76342
01443	009920	IF SP-CHECK IS GREATER THAN SUPPLY-STUDY-POINT.	76343
01444	009930	MOVE SP-CHECK TO SUPPLY-STUDY-POINT.	76344
01445	009940	GO TO 1500-RETURNION-CITY.	76345
01446	009950	1400-CALC-RC.	76346
01447	009960	MOVE MINIMUM-CSL-RC TO CSL-RC IN WORK-LVL.	76347
01448	009970	COMPUTE RECORDER-POINT = CSL-RC IN WORK-LVL + 1, 1, 1.	76348
01449	009980	COMPUTE SUPPLY-STUDY-POINT = CSL-RC IN WORK-LVL + FROM-RF.	76349
01450	009990	1500-VELOCITY.	76350
01451	010000	COMPUTE UTILITY = SAFETY-LEVEL IN WORK-LVL + .5.	76351
01452	010010	MOVE UTILITY TO SAFETY-LEVEL IN WORK-LVL.	76352
01453	010020	COMPUTE UTILITY = CSL-OPERATING-LEVEL IN WORK-LVL + .5.	76353
01454	010030	MOVE UTILITY TO CSL-OPERATING-LEVEL IN WORK-LVL.	76354
01455	010040	COMPUTE UTILITY = RECORDER-POINT + .5.	76355
01456	010050	MOVE UTILITY TO RECORDER-POINT.	76356
01457	010060	COMPUTE UTILITY = SUPPLY-STUDY-POINT + .5.	76357
01458	010070	MOVE UTILITY TO SUPPLY-STUDY-POINT.	76358
01459	010080	COMPUTE UTILITY = CSL-RC IN WORK-LVL + .5.	76359
01460	010090	MOVE UTILITY TO CSL-RC IN WORK-LVL.	76360
01461	010100	IF FIXED-RC.	76361
01462	010110	GO TO 1500-PRICE-CHECK.	76362
01463	010120	CHK-2022.	76363
01464	010130	IF FROM-LIMIT NOT = 0.	76364
01465	010140	AND RECORDER-POINT < 1.	76365
01466	010150	MOVE 1 TO RECORDER-POINT.	76366
01467	010160	IF FROM-LIMIT = 0.	76367
01468	010170	GO TO 1500-COST.	76368
01469	010180	IF RECORDER-POINT + 1 > CSL-RC IN WORK-LVL.	76369
01470	010190	COMPUTE CSL-RC IN WORK-LVL = RECORDER-POINT + 1.	76370
01471	010200	1500-PRICE-CHECK.	76371
01472	010210	MOVE 1 TO FROM-LIMIT.	76372
01473	010220	PERFORM 1600-PRICE-RC-SUB-COMPUTATION-PRICE-SEARCH.	76373
01474	010230	IF PRICE-RC-SUB-COMPUTATION-PRICE-SEARCH.	76374
01475	010240	GO TO 1500-COST.	76375
01476	010250	1510-PASS.	76376
01477	010260	COMPUTE FROM-RF = FROM-RF IN WORK-LVL + 1, 1, 1.	76377
01478	010270	1510-PASS.	76378
01479	010280	IF FROM-RF = 1, 1, 1.	76379
01480	010290	IF FROM-RF = 1, 1, 1.	76380
01481	010300	IF FROM-RF = 1, 1, 1.	76381

← INSERT (PAGE A-27)  
← INSERT 3 LINES (PAGE A-25)





# COBOL PROGRAM SHEET

PROGRAM		SYSTEM		SHEET		OF	
PROGRAMMER		DATE		IDENT		73	
ST NO		DATE		IDENT		73	
PAGE	SERIAL	1	2	3	4	5	6
1	3	A	B	12	16	20	24
2	4	8	12	16	20	24	28
3	5	16	20	24	28	32	36
4	6	24	28	32	36	40	44
5	7	32	36	40	44	48	52
6	8	40	44	48	52	56	60
7		48	52	56	60	64	68
8		56	60	64	68	72	76
9		64	68	72	76	80	84
10		72	76	80	84	88	92
11		80	84	88	92	96	100
12		88	92	96	100	104	108
13		96	100	104	108	112	116
14		104	108	112	116	120	124
15		112	116	120	124	128	132
16		120	124	128	132	136	140
17		128	132	136	140	144	148
18		136	140	144	148	152	156
19		144	148	152	156	160	164
20		152	156	160	164	168	172
21		160	164	168	172	176	180
22		168	172	176	180	184	188
23		176	180	184	188	192	196
24		184	188	192	196	200	204
25		192	196	200	204	208	212
26		196	200	204	208	212	216
27		204	208	212	216	220	224
28		208	212	216	220	224	228
29		216	220	224	228	232	236
30		224	228	232	236	240	244
31		232	236	240	244	248	252
32		240	244	248	252	256	260
33		248	252	256	260	264	268
34		256	260	264	268	272	276
35		264	268	272	276	280	284
36		272	276	280	284	288	292
37		280	284	288	292	296	300
38		288	292	296	300	304	308
39		296	300	304	308	312	316
40		304	308	312	316	320	324
41		312	316	320	324	328	332
42		316	320	324	328	332	336
43		324	328	332	336	340	344
44		332	336	340	344	348	352
45		340	344	348	352	356	360
46		348	352	356	360	364	368
47		356	360	364	368	372	376
48		364	368	372	376	380	384
49		372	376	380	384	388	392
50		380	384	388	392	396	400
51		388	392	396	400	404	408
52		396	400	404	408	412	416
53		404	408	412	416	420	424
54		412	416	420	424	428	432
55		420	424	428	432	436	440
56		428	432	436	440	444	448
57		436	440	444	448	452	456
58		444	448	452	456	460	464
59		452	456	460	464	468	472
60		460	464	468	472	476	480
61		468	472	476	480	484	488
62		476	480	484	488	492	496
63		484	488	492	496	500	504
64		492	496	500	504	508	512
65		500	504	508	512	516	520
66		508	512	516	520	524	528
67		516	520	524	528	532	536
68		524	528	532	536	540	544
69		532	536	540	544	548	552
70		540	544	548	552	556	560
71		548	552	556	560	564	568
72		556	560	564	568	572	576
73		564	568	572	576	580	584
74		572	576	580	584	588	592
75		580	584	588	592	596	600
76		588	592	596	600	604	608
77		596	600	604	608	612	616
78		604	608	612	616	620	624
79		612	616	620	624	628	632
80		620	624	628	632	636	640
81		628	632	636	640	644	648
82		636	640	644	648	652	656
83		644	648	652	656	660	664
84		652	656	660	664	668	672
85		660	664	668	672	676	680
86		668	672	676	680	684	688
87		676	680	684	688	692	696
88		684	688	692	696	700	704
89		692	696	700	704	708	712
90		700	704	708	712	716	720
91		708	712	716	720	724	728
92		716	720	724	728	732	736
93		724	728	732	736	740	744
94		732	736	740	744	748	752
95		740	744	748	752	756	760
96		748	752	756	760	764	768
97		756	760	764	768	772	776
98		764	768	772	776	780	784
99		772	776	780	784	788	792
100		780	784	788	792	796	800

V. Program P05ALDAC - Print Punch and Format

1. Current Processing

P03ALD reads the demand master file for the input stock number, finds a cross-reference record type X, and generates an exception type 5.

P05ALD in processing the exception, accesses an address nine positions too far into the record and retrieves only part of the stock number, followed by nine characters of meaningless data.

2. Current Result

The "new" stock number in the exception report message is incorrect.  
(See Appendix E, Example 1, pages E-2 to E-4.).

3. Corrective Action Required

Change the record description in working storage in P05ALD (Page A-31).

00475	004093	03 X5-ENTRY-CODE	PICTURE 9.	POSAL DAC
00476	004103	03 X5-400-FIX	PICTURE X.	POSAL DAC
00477	004110	03 FILLER	PICTURE X(10).	POSAL DAC
00478	004120	03 X5-FIX	PICTURE X.	POSAL DAC
00479	004130	03 FILLER	PICTURE X(7).	77101
00480	004140	03 X5-USS-FLAG	PICTURE X.	77101
00481	004150	03 FILLER	PICTURE X(53).	77101
00482	004160	01 ENKOR-EXCEPT-LST-X7 REDEFINES IN-MASTER-FILE.	POSAL DAC	POSAL DAC
00483	004170	03 SORT-KEY-X7.	POSAL DAC	POSAL DAC
00484	004180	05 FILLER	PICTURE XX.	POSAL DAC
00485	004190	05 U3MUS-MUG-CODE.		POSAL DAC
00486	004200	07 X7-MUG-NR	PICTURE X.	POSAL DAC
00487	004210	07 X7-MUG-LAT	PICTURE X.	POSAL DAC
00488	004220	05 X7-STK-NR	PICTURE X(15).	POSAL DAC
00489	004230	05 X7-1-CODE	PICTURE XXX.	POSAL DAC
00490	004240	05 FILLER	PICTURE XXXX.	POSAL DAC
00491	004250	05 EXCEPTION-TPE	PICTURE 97.	POSAL DAC
00492	004260	05 FILLER	PICTURE X.	POSAL DAC
00493	004270	03 STK-MUG-X7.		POSAL DAC
00494	004280	05 STK-1	PICTURE X(4).	POSAL DAC
00495	004290	05 STK-2	PICTURE X(9).	POSAL DAC
00496	004300	05 STK-3	PICTURE X(2).	POSAL DAC
00497	004310	03 X7-UIC	PICTURE X(6).	POSAL DAC
00498	004320	03 X7-DUMMY-UIC	REDEFINES X7-UIC.	POSAL DAC
00499	004330	05 X7-DUMMY-UIC-10	PICTURE X.	POSAL DAC
00500	004340	05 FILLER	PICTURE X.	POSAL DAC
00501	004350	05 X7-SOS	COMPUTATIONAL-3 PICTURE 59(5).	POSAL DAC
00502	004360	05 FILLER	PICTURE X.	POSAL DAC
00503	004370	03 FILLER	REDEFINES X7-UIC.	POSAL DAC
00504	004380	05 X7-UNIT-NR	PICTURE 909.	POSAL DAC
00505	004390	05 X7-UNIT-NR-K	REDEFINES X7-UNIT-NR PICTURE XXX.	POSAL DAC
00506	004400	05 X7-UNIT-REQ-CODE	PICTURE XXX.	POSAL DAC
00507	004410	03 X7-TRANS-CODE	PICTURE XXX.	POSAL DAC
00508	004420	03 X7-DATE	COMPUTATIONAL-3 PICTURE 59(5).	POSAL DAC
00509	004430	03 X7-SERIAL-NUMBER	PICTURE 9(4).	POSAL DAC
00510	004440	03 X7-UIC	PICTURE XXX.	POSAL DAC
00511	004450	03 X7-UI	PICTURE XX.	POSAL DAC
00512	004460	03 FILLER	PICTURE X(4).	POSAL DAC
00513	004470	03 X7-EPG	PICTURE XXX.	POSAL DAC
00514	004480	02 X7-FIELDS.		POSAL DAC
00515	004490	03 X7-QUAN-COMP	COMPUTATIONAL PICTURE 59(9).	POSAL DAC
00516	004500	03 X7-QUAN-COMP-2	REDEFINES X7-QUAN-COMP COMPUTATIONAL	POSAL DAC
00517	004510	03 X7-QUAN-COMP-1.	PICTURE 59(11).	POSAL DAC
00518	004520	03 X7-QUAN-PACK-1.		76242
00519	004530	05 X7-QUAN-PACK	PICTURE 59(7).	76242
00520	004540	05 X7-QUAN-PACK-ALPHA	COMP-3.	76242
00521	004550	05 X7-QUAN-PACK-ALPHA	REDEFINES X7-QUAN-PACK-1.	76242
00522	004560	05 FILLER	PICTURE X.	76242
00523	004570	05 FILLER	PICTURE X.	76242
00524	004580	03 X7-MOT-CODE	PICTURE X.	76242
00525	004590	05 X7-MOT-CODE	PICTURE X.	76242
00526	004600	05 X7-MOT-CODE	PICTURE X.	76242
00527	004610	05 FILLER	PICTURE X.	76242
00528	004620	05 X7-PAL-CODE	PICTURE XX.	POSAL DAC
00529	004630	02 FILLER-PARA		POSAL DAC
00530	004640	03 FILLER	PICTURE X.	POSAL DAC
00531	004650	03 X7-NEW-FSN	PICTURE X(15).	POSAL DAC
00532	004660	02 FILLER	PICTURE X(59).	76242
00533	004670	02 FILLER		POSAL DAC

REPLACE

A-30



## VI. Program P05ALDBC - Build Supply Control Study

### 1. Current Processing

DSS non-recurring demands are included in the non-recurring demand rate but not in the annual *frequency*.

### 2. Current Results

The Supply Control Study can show a non-recurring demand rate when there have been apparently no demands for the past year. (See Appendix E, Example 2).

### 3. Corrective Action

Add DSS and non-DSS non-recurring demands when preparing the contents of the frequency field. (See page A-34).

Note: This correction is open for further study. As an alternative, the addition of DSS non-recurring demands to the non-recurring demand rate could be deleted.

25 FEB 1978

← REPLACE

01164	007190	MOVE NR-NON-K-DEMANDS TO PERG-SUBREC.	P05ALD8C
01165	007200	MOVE RATE-FOR-Q-L TO MONTHLY-FORECAST.	P05ALD8C
01166	007210	5170-PERCENTAGES-COMPUTED.	P05ALD8C
01167	007220	IF STOCKAGE-LIST-CODE NOT = 'Q',	P05ALD8C
01168	007230	AND NOT = 'C',	P05ALD8C
01169	007240	OR NON-DSS-DEMAND-RT + DSS-DEMAND-RT = 0	P05ALD8C
01170	007250	MOVE 0000 TO PCT-TREND, PCT-VAP,	P05ALD8C
01171	007260	GO TO 5180-ADDITIONAL-FIELDS.	P05ALD8C
01172	007270	COMPUTE PCT-TREND-ROUNDED = (FORECAST-DEMAND-RATE -	P05ALD8C
01173	007280	NGA-DSS-DEMAND-RT + DSS-DEMAND-RT) * 100 /	P05ALD8C
01174	007290	(NON-DSS-DEMAND-RT + DSS-DEMAND-RT).	P05ALD8C
01175	007300	COMPUTE PCT-VAR-ROUNDED = DEMAND-RATE-VARIANCE * 100 /	P05ALD8C
01176	007310	(NON-DSS-DEMAND-RT + DSS-DEMAND-RT).	P05ALD8C
01177	007320	5180-ADDITIONAL-FIELDS.	P05ALD8C
01178	007330	MOVE DEMAND-RATE-ADJUSTMENT-QTY TO DRAG-RR.	P05ALD8C
01179	007340	5200-LOADING-OUTPUT.	P05ALD8C
01180	007350	IF SUBR EQUAL TO NUMBER-OF-CSLS	P05D8C02
01181	007360	MOVE W504-CONSTANT-C TO PCA-SPACE-CTL ELSE	P05D8C02
01182	007370	MOVE SPACE TO PCA-SPACE-CTL.	P05D8C02
01183	007380	ADD W504-CONSTANT-1 TO SKST-CTL-FLO.	P05D8C02
01184	007390	MOVE STORAGE-SITE-DETAILS TO PRINT-OUT-LINE.	P05D8C02
01185	007400	PERFORM 5135-WRITE-FC5ALD.	P05D8C02
01186	007410	MOVE SPACES TO STORAGE-SITE-DETAILS.	P05ALD8C
01187	007420	IF SUBR = NUMBER-OF-CSLS	P05ALD8C
01188	007430	GO TO 5202-INSTALLATION-DETAILS.	P05ALD8C
01189	007440	ADD 1 TO SUBR.	P05ALD8C
01190	007450	GO TO 5150-LOAD-SUBFCORPS.	P05ALD8C
01191	007460	5202-INSTALLATION-DETAILS.	P05ALD8C
01192	007470	IF THE-LINE-COUNTER GREATER THAN 50	P05D8C02
01193	007480	MOVE W504-CONSTANT-3 TO PCA-SPACE-CTL.	P05D8C02
01194	007490	MOVE W504-CONSTANT-4 TO PCA-SPACE-CTL.	P05D8C02
01195	007500	ADD W504-CONSTANT-1 TO SKST-CTL-FLO.	P05D8C02
01196	007510	MOVE INSTALLATION-HEADER TO PRINT-OUT-LINE.	P05D8C02
01197	007520	PERFORM 5135-WRITE-FC5ALD.	P05D8C02
01198	007530	MOVE SPACE TO PCA-SPACE-CTL.	P05D8C02
01199	007540	MOVE SPACE TO PCA-SPACE-CTL.	P05D8C02
01200	007550	ADD W504-CONSTANT-1 TO SKST-CTL-FLO.	P05D8C02
01201	007560	MOVE LINE-03 TO PRINT-OUT-LINE.	P05D8C02
01202	007570	PERFORM 5135-WRITE-FC5ALD.	P05D8C02
01203	007580	MOVE W504-CONSTANT-3 TO PCA-SPACE-CTL.	P05D8C02
01204	007590	ADD W504-CONSTANT-1 TO SKST-CTL-FLO.	P05D8C02
01205	007600	MOVE LINE-04 TO PRINT-OUT-LINE.	P05D8C02
01206	007610	PERFORM 5135-WRITE-FC5ALD.	P05D8C02
01207	007620	MOVE 1 TO SUBR.	P05ALD8C
01208	007630	MOVE ZEROS TO ALPHA-WRKAREA RTIA-WRKAREA.	P05ALD8C
01209	007640	ADD 8 TO THE-LINE-COUNTER.	P05ALD8C
01210	007650	5204-LOAD-STORAGE.	P05ALD8C
01211	007660	ADD 1 TO THE-LINE-COUNTER.	P05ALD8C
01212	007670	MOVE W51-SUBRECORD (SUBR) TO DRAG-CTL.	P05ALD8C
01213	007680	MOVE LVL-SUBRECORD (SUBR) TO WORK-LVL.	P05ALD8C
01214	007690	5206-SET-UP-INSTALL-DETAIL.	P05ALD8C
01215	007700	MOVE FORECASTED-1ST TO PCT-DAYS.	P05ALD8C
01216	007710	MOVE SPACES TO WORK-SPACES.	P05ALD8C





## VII. Program P10ALD - Monthly Update of DMF and Extract for Stock Record Support

### 1. Current Processing

The monthly DMF update in Program P10ALD "ages" the demand file entries by one month. Unit records are tested for deletion at this time and obsolete records are deleted from the DMF. However, if the unit type code is '4' or 'D' (stock record support is not required), the stock record support processing and the deletion test are bypassed. See Appendix E, Pages E-9, E-10.

### 2. Current Results

Obsolete unit records (zero demands) for Unit Types 'D' and '4' are not being deleted from the Demand Master File. The presence of these records does not in any way affect the validity of demand computations, but will tend to increase processing time as the volume of the obsolete records increases.

### 3. Corrective Action

Obsolete records for unit types 'D' and '4' should be deleted from the Demand Master File during the monthly update process. (Page A-37.)

#### Note:

These changes test zero demands but do not test PLL date in making the deletion decision for unit types '4' and 'D'.





## VIII. Program P50ALB - DHF Update

### 1. Current Processing

Demand cancellations (reversals) are generated in the Document History Program from the following types of transactions:

- a. A0\_ with Manager Entry Code 6 (directed processing of a rejected request for issue)
- b. AE\_ input cancellation status (ITC 008) (except ITSC 5).
- c. AE\_ output status generated in programs run prior to Document History Program (ITC other than 007, 008, 009) (Code Table DHSTATBL is used to identify the status codes requiring demand reversals.)
- d. AE6, AG6 cancellations (reply to MRO follow-up)
- e. Z7A, manager entry code 6 (directed processing to cancel an established due-out).

Some of the generated reversals for non-recurring demands contain a demand code of "R" (recurring). This occurs because each type of transaction formats the demand cancellation in a separate set of coding. There is coding to find the original demand code (in program paragraph 3940-A0-CK), but it is not accessed for all types of transactions which require a demand reversal. The processing of AE output status (see 1. c. above) transactions, for example, does not set a demand code in the generated reversal. When the demand code is not set, the contents of the input transaction (usually suffix code) remain in the demand code field. Later in the processing, Program P02ALD edits demand code and (correctly) sets invalid demand codes to 'R'. Therefore, the discrepancy occurs only when the original demand was non-recurring and the reversal processing bypasses the demand code selection routine.

Examples of DHA reversals for non-recurring demands formatted with Demand Code 'R' are shown in Appendix E:

Example 7, Pages E-19 to E-21--the reversal is formatted from an AE status 'CA', ITC 025, ITSC 005. See Paragraph 3835 in P50ALB.

Example 9, Pages E-28, E-29--the reversal is formatted from an AE status 'CN'.  
(same program paragraph as above).

Paragraph 3835 uses the transaction contents of "demand/suffix code" rather than finding the original demand code.

In addition, some of the partial cancellations contain a management code of "C" (complete cancellation). This occurs because although there are routines to determine whether the cancellation is for a partial quantity or a complete quantity, these routines are not accessed for all types of transactions. In processing input cancellation transactions (see l.b. above), for example, the management code is set to 'C' regardless of whether the quantity is partial or complete.

Appendix E, Example 8, Pages E-23 to E-26 shows a DHA reversal for a partial quantity formatted with management code 'C'. The reversal is formatted from an AE status CA, ITC 008, ITSC 001.

See paragraph 3710 in P50ALB. This paragraph moves 'C' to management code without checking for complete or partial quantity.

## 2. Current Results

a. When non-recurring cancellations are coded as recurring, the cancellations are usually rejected as "not on demand file" because the program is looking for a recurring demand record. The non-recurring demand remains on the Demand Master. If there happens to be a recurring demand on file for the same unit and stock number, the recurring demand will be cancelled.

b. When a partial cancellation contains a management code 'C', the correct quantity will be subtracted from the demand rate but the demand frequency will also be reduced by 1 (erroneously decreasing the frequency and allowing the possibility of a residual demand rate with no frequency recorded.)

### 3. Corrective Action

a. A common routine combining all the necessary requirements to format demand reversals is recommended. (Pages A-48 to A-51).

The coding suggested is based on a combination of current coding

(1) To find the original demand code as recorded on the Demand History File. (Page A-48). This coding is based on program paragraph 3940-A0-CK with the following additions:

(a) A0's with blank demand codes are bypassed. (Document History printouts show A0's with blank demand codes which could possibly be accessed before the A0 which contains the demand code.)

(b) A0's with an EPC on the Demand EPC table are bypassed. (Document History printouts show that A0's are sometimes reentered with a demand code which differs from the original demand code. When the EPC is on the demand EPC table, the demand and demand code are recorded from the reentry document.)

(c) The default value for demand code is (arbitrarily) set to 'R'.

(2) To set management code to 'X' for partial quantities and otherwise set the management code to 'C'. (Page A-49).

The transaction (cancellation) quantity is compared to the original A0 quantity to determine partial quantities for the purposes of demand reversals. Current coding, where quantity is compared, compares to the open quantity -- usually the open due-out; however, it is possible for the "open" quantity to be a partial quantity in itself. The default value for management code if the A0 is not found is (arbitrarily) set to 'C'.

If the management code is 'C' the document history quantity is also moved to the demand reversal. (This provision is taken from the current coding and prevents an erroneously large quantity in the demand reversal.)

(3) To set WHDMD-IND to zero (Page A-49) whether the reversal is for a complete or partial quantity, because there is no convenient way to identify multiple partials to the point of completion.

b. The basic purpose of the suggested coding is to set the demand code to agree with the original record on Demand History, to set the complete/partial indicator based on the original quantity recorded on Demand History, and to set the demand indicator consistently for all types of transactions/reversals. Further refinements to the routine may be added, if desired.

The common routine should be performed whenever a demand reversal is required.

- (1) Paragraph 2090-MEC-6
- (2) Paragraph 3710
- (3) Paragraph 3835
- (4) Paragraph 3960
- (5) Paragraph 0205 (COBOL Sequence # 048700)

[illegible]

DE: 41-73



02277	22700	ELSE	P50BZA04
02278	22770	GO TO 6400-RITE-STR-FROM-INPUT,	P50BZA04
02279	22770	SUBTRACT TOTV OF TIN FROM ABOVE-UNIT-ITY,	P50BZA04
02280	22770	IF TIOC-ID-CODE OF TIN NOT = 'AF3'	77126
02281	22800	PERFORM 3712-CREATE-AEL,	P50BZA04
02282	22810	MOVE TI TO TOUT,	77126
02283	22820	IF TIOC-ID-CODE OF TI = '2HR'	P50BZA04
02284	22830	PERFORM 3715-AEL-TU-CUSTOMER,	P50BZA04
02285	22840	IF ABOVE-TIO = 0	P50BZA04
02286	22850	GO TO 6400-RITE-SIR-FROM-INPUT,	P50BZA04
02287	22860	MOVE TI TO TOUT,	77126
02288	22870	PERFORM 6520-RITE-SIR-FROM-OUTPUT THRU 6520-EXIT,	77112
02289	22880	GO TO 3710,	77112
02290	22890	MOVE Q TO SUB,	P50BZA04
02291	22900	PERFORM 3940-DO-CK THRU 3955-EXIT,	P50BZA04
02292	22910	MOVE Q TO T-IMAGE-T-GOOF OF TIN,	P50BZA04
02293	22920	GO TO 6410-WRITE-DO-ONLY,	P50BZA04
02294	22930	3712-CREATE-AEL,	P50BZA04
02295	22940	PERFORM 2420-STATUS-GEN,	77112
02296	22950	PERFORM 6220 THRU 6250-EXIT,	P50BZA04
02297	22960	3715-AEL-TU-CUSTOMER,	P50BZA04
02298	22970	PERFORM 2400-STATUS-GEN,	77112
02299	22980	MOVE Q TO TAE-REFENTRY-CODE OF TOUT,	P50BZA04
02300	22990	MOVE HOMS TO T-ED11-STATUS OF TOUT,	P50BZA04
02301	23000	PERFORM 6410-RITE-STR-OUT,	77112
02302	23010	3720,	P50BZA04
02303	23020	IF ABOVE-TIO = 1	P50BZA04
02304	23030	GO TO 3710,	77112
02305	23040	GO TO 0900-READ-STR,	P50BZA04
02306	23050	3725,	P50BZA04
02307	23060	IF TAE-REFENTRY-CODE OF TIN = 2 OR 3	P50BZA04
02308	23070	SUBTRACT TOTV OF TIN FROM WHCANCELPENDING-ITY	P50BZA04
02309	23080	SUBTRACT TOTV OF TIN FROM ABOVE-UNIT-ITY,	P50BZA04
02310	23090	IF TAE-REFENTRY-CODE OF TIN = 2	P50BZA04
02311	23100	SUBTRACT TOTV OF TIN FROM ABOVE-UNIT-ITY,	P50BZA04
02312	23110	MOVE T-TRA-SACTIO-DATE OF TIN TO EXTRA SACTIO-DATE,	P50BZA04
02313	23120	GO TO 6000-RITE-STR-OUT,	77168
02314	23130	3730,	P50BZA04
02315	23140	IF (TIOC-ID-MIN OF TIN = 'AS' OR 'AU')	77168
02316	23150	AND TIOC OF TI = 018	77168
02317	23160	GO TO 6400-RITE-STR-FROM-INPUT,	P50BZA04
02318	23170	PERFORM 6200-CREATE-HIST-SEC THRU 6350-EXIT,	77112
02319	23180	MOVE TIO TO MISREPLY-INDICATOR (MISREPLY-CT),	P50BZA04
02320	23190	IF TTYPE-TRANSACTION OF TIN = 'DI'	P50BZA04
02321	23200	GO TO 0900-READ-STR,	P50BZA04
02322	23210	GO TO 6400-WRITE-STR-FROM-INPUT,	P50BZA04
02323	23220	3732-ADD-UNIT-ITY,	P50BZA04
02324	23230	PERFORM 6200-CREATE-HIST-SEC THRU 6350-EXIT,	P50BZA04
02325	23240	IF TIOC-ID-MIN OF TI > 0	P50BZA04
02326	23250	MOVE QOA TO T-ED11-STATUS-CODE OF TIN,	P50BZA04
02327	23260	IF TIO-MISREPLY-INDICATOR = SPACES OR ABOVE-VALUES	77165
02328	23270	GO TO 6400-RITE-STR-FROM-INPUT,	P50BZA04
02329	23280	IF CHR-STATUS = 1	P50BZA04

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02383 023820 IF SUH2 > 0
02384 023830 GO TO 3790.
02385 023840 3810-OMP-EXIT.
02386 023850 EXIT.
02387 023860 3820.
02388 023870 IF TSTATUS-CODE OF TI = 'CAI'
02389 023880 MOVE TREFECT-REASON OF TI TO SUBJECT-REASON.
02390 023890 IF T00C-IO-WAIT-OF TI = 'AGI'
02391 023900 MOVE TRANSACTION-DATE OF TI TO UTTRANSACTION-DATE.
02392 023910 PERFORM 6220-CREATE-HIST-SEG THRU 6350-EXIT.
02393 023920 IF TITC OF TI = 005 OR 006
02394 023930 NEXT SENTENCE ELSE
02395 023940 GO TO 6400-RITE-STEP-FROM-INPUT.
02396 023950 SET STATUS-INX TO 1.
02397 023960 SEARCH STATUS-TABLE
02398 023970 AREF STATUS-ENTRY (STATUS-INX) = HIGH-VALUES
02399 023980 GO TO 6400-RITE-STEP-FROM-INPUT
02400 023990 WHEN TSTATUS-CODE OF TI = STATUS-ENTRY (STATUS-INX)
02401 024000 GO TO 3835.
02402 024010 3835.
02403 024020 IF KMMR-IND = 0
02404 024030 GO TO 6400-RITE-STEP-FROM-INPUT.
02405 024040 MOVE TI TO TI1.
02406 024050 PERFORM 6500-RITE-STR-FROM-OUTPUT THRU 6520-EXIT.
02407 024060 PERFORM 7220-DWA-CP THRU 7230-DWA-EXIT.
02408 024070 MOVE TOUT TO TI1.
02409 024080 IF TOUT OF TI < KMMR-OUT-CTY
02410 024090 MOVE IX1 TO TAVAGE-EXIT-CODE OF TI1
02411 024100 ELSE
02412 024110 MOVE IX1 TO TAVAGE-EXIT-CODE OF TI1
02413 024120 MOVE IX1 TO TAVAGE-EXIT-CODE OF TI1
02414 024130 MOVE TMRJFC-CTY TO TPROJECT-CODE OF TI1.
02415 024140 GO TO 6410-RITE-STEP-FROM-INPUT.
02416 024150 3870-FREE-ISSUE.
02417 024160 MOVE TOUT TO TOUT-CODE OF.
02418 024170 IF TAC-IND OF TI > 0
02419 024180 MOVE TOUT TO TOUT-FIND.
02420 024190 MOVE TCODE-DATE OF TI TO TMDLA.
02421 024200 MOVE 1 TO SUBI.
02422 024210 3875.
02423 024220 IF TSPC-IND-AT (SUBI) = 'DEF'
02424 024230 MOVE TSPC-IND-CTY OF TI TO TASSIGN-CTY (SUBI)
02425 024240 GO TO 3890-EXIT.
02426 024250 IF SUBI NOT = TSPC-IND-CTY
02427 024260 ADD 1 TO SUBI
02428 024270 GO TO 3875.
02429 024280 3880-EXIT.
02430 024290 EXIT.
02431 024300 3890-AE6-AGA.
02432 024310 IF T00C-IO-CODE OF TI = 'AGS'
02433 024320 GO TO 3920.
02434 024330 IF T00C-IO-CODE OF TI = 'AGI'
02435 024340 GO TO 3900.

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02436	24360	IF TSUFFIX-CODE OF TI = 150000	77112
02437	24370	TEXT RE-TRACE USE	P5082A04
02438	24380	GO TO 3915.	P5082A04
02439	24390		P5082A04
02440	24400	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02441	24410	MOVE TSUFFIX-CODE OF TI TO TSUFFIX-CODE OF TI	P5082A04
02442	24420	GO TO 3920.	P5082A04
02443	24430		P5082A04
02444	24440	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02445	24450	GO TO 3920.	P5082A04
02446	24460		P5082A04
02447	24470	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02448	24480	GO TO 3920.	P5082A04
02449	24490		P5082A04
02450	24500	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02451	24510	GO TO 3920.	P5082A04
02452	24520		P5082A04
02453	24530	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02454	24540	GO TO 3920.	P5082A04
02455	24550		P5082A04
02456	24560	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02457	24570	GO TO 3920.	P5082A04
02458	24580		P5082A04
02459	24590	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02460	24600	GO TO 3920.	P5082A04
02461	24610		P5082A04
02462	24620	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02463	24630	GO TO 3920.	P5082A04
02464	24640		P5082A04
02465	24650	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02466	24660	GO TO 3920.	P5082A04
02467	24670		P5082A04
02468	24680	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02469	24690	GO TO 3920.	P5082A04
02470	24700		P5082A04
02471	24710	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02472	24720	GO TO 3920.	P5082A04
02473	24730		P5082A04
02474	24740	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02475	24750	GO TO 3920.	P5082A04
02476	24760		P5082A04
02477	24770	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02478	24780	GO TO 3920.	P5082A04
02479	24790		P5082A04
02480	24800	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02481	24810	GO TO 3920.	P5082A04
02482	24820		P5082A04
02483	24830	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02484	24840	GO TO 3920.	P5082A04
02485	24850		P5082A04
02486	24860	IF TSUFFIX-CODE OF TI = 150000	P5082A04
02487	24870	GO TO 3920.	P5082A04
02488	24880		P5082A04

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(PAGES A-48, A-49)

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04821 048200 MOVE HSC-0110-CODE-PRGM (SUB) TO T0-0110-CODE OF TIN. P508ZAO4
04822 048210 IF HSC-0110-CODE (SUB) = 1500. P508ZAO4
04823 048220 PERFORM 4830-CAN THRU 4839-EXIT. P508ZAO4
04824 048230 IF T1-0110-CODE OF T1 > 10. P508ZAO4
04825 048240 AND C 10911. P508ZAO4
04826 048250 GO TO 4820. P508ZAO4
04827 048260 IF HSC-0110-CODE (SUB) = 1 NEXT SENTENCE P508ZAO4
04828 048270 ELSE P508ZAO4
04829 048280 MOVE HSC-0110-CODE-PRGM (SUB) TO T0-0110-CODE OF T1. P508ZAO4
04830 048290 GOV 2 TO T0-0110-CODE OF T1. P508ZAO4
04831 048300 MOVE 025 TO T0-0110-CODE OF T1. P508ZAO4
04832 048310 GO TO 4810. P508ZAO4
04833 048320 4P20. P508ZAO4
04834 048330 MOVE 0 TO HSC-0110-CODE-PRGM (SUB). P508ZAO4
04835 048340 MOVE 0200 TO HSC-0110-CODE-PRGM (SUB). P508ZAO4
04836 048350 GO TO 0200-PRGM-EXIT. P508ZAO4
04837 048360 4830-CAN. 77112
04838 048370 MOVE T1 TO TOUT. P508ZAO4
04839 048380 MOVE HSC-0110-CODE (SUB) TO T0-0110-CODE OF TOUT. P508ZAO4
04840 048390 MOVE 1000 TO T0-0110-CODE OF TOUT 4830-PRGM-EXIT. P508ZAO4
04841 048400 MOVE 030 TO T10-CODE OF TOUT 4830-PRGM-EXIT. P508ZAO4
04842 048410 MOVE 010 TO T10-CODE OF TOUT 4830-PRGM-EXIT. P508ZAO4
04843 048420 MOVE 480 TO T0-0110-CODE OF TOUT 4830-PRGM-EXIT. P508ZAO4
04844 048430 MOVE 1 TO T0-0110-CODE OF TOUT 4830-PRGM-EXIT. P508ZAO4
04845 048440 PERFORM 0510-KYF-EXIT. P508ZAO4
04846 048450 PERFORM 0220 THRU 0350-EXIT. 77112
04847 048460 4839-EXIT. P508ZAO4
04848 048470 EXIT. P508ZAO4
04849 048480 5000-EXIT. P508ZAO4
04850 048490 IF TRANS-0110-CODE-PRGM = 1. P508ZAO4
04851 048500 PERFORM 0100-CREATE-HIST-RCO THRU 0350-EXIT. P508ZAO4
04852 048510 PERFORM 0200-CREATE-HIST-SEC THRU 0350-EXIT. P508ZAO4
04853 048520 MOVE 0000-CAN-SEC-01 OF T1 TO HSC-0110-CODE-PRGM (SUB). P508ZAO4
04854 048530 (HSC-0110-CODE-PRGM (SUB)). P508ZAO4
04855 048540 MOVE T0-0110-CODE-PRGM (SUB) TO T0-0110-CODE-PRGM (SUB). P508ZAO4
04856 048550 MOVE T0-0110-CODE-PRGM (SUB) TO T0-0110-CODE-PRGM (SUB). P508ZAO4
04857 048560 GO TO 0400-WRITE-0110-PRGM-EXIT. P508ZAO4
04858 048570 ***** P508ZAO4
04859 048580 ***** P508ZAO4
04860 048590 ***** P508ZAO4
04861 048600 ***** P508ZAO4
04862 048610 IF T0-0110-CODE OF T1 = 100. P508ZAO4
04863 048620 IF T0-0110-CODE OF T1 = 100. P508ZAO4
04864 048630 GO TO 0400-WRITE-0110-PRGM-EXIT. P508ZAO4
04865 048640 IF T10-CODE OF T1 = 021. P508ZAO4
04866 048650 GO TO 0205. 77112
04867 048660 IF T10-CODE OF T1 = 010. P508ZAO4
04868 048670 AND T10-CODE OF T1 = 003. P508ZAO4
04869 048680 GO TO 0205. 77112
04870 048690 GO TO 0400-WRITE-0110-PRGM-EXIT. P508ZAO4
04871 048700 ***** P508ZAO4
04872 048710 IF T0-0110-CODE OF T1 = 001. P508ZAO4
04873 048720 EXIT. P508ZAO4

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04874 048730 GO TO 0400-PRICE-STR-FRAME-INPUT.
04875 048740 IF TRACT-ENTRY OF TIT = 121
04876 048750 PERFORM 0100-CALCULATION-STR-THRU 0300-EXIT
04877 048760 MOVE 001 TO TRACTIVITY-10
04878 048770 MOVE TRACTIVITY-PRICE-CODE OF TIT TO REVENUE-PRICE-CODE.
04879 048780 IF TITC-10-CODE OF TIT = '27A'
04880 048790 AND TITC-ENTRY OF TIT = 151 NEXT SENTENCE
04881 048800 ELSE
04882 048810 GO TO 0600-PRICE-INPUT.
04883 048820 SUBTRACT TITC-10 FROM REVENUE-OUT-QTY.
04884 048830 IF REVENUE-OUT-QTY < 1
04885 048840 MOVE 001 TO MANAGEMENT-CODE OF TIT.
04886 048850 ELSE
04887 048860 MOVE 001 TO MANAGEMENT-CODE OF TIT.
04888 048870 MOVE TRACTIVITY-CODE TO PROJECT-CODE OF TIT.
04889 048880 PERFORM 0610-PRICE-STR-ONLY THRU 0630-PRICE-STR-EXIT.
04890 048890 GO TO 0600-PRICE-INPUT.
04891 048900 0300-26.
04892 048910 IF TRACT-ENTRY OF TIT = 121
04893 048920 GO TO 0305.
04894 048930 IF TITC-10-CODE OF TIT = 'B9A' OR 'B9B' OR 'D A'
04895 048940 NEXT SENTENCE ELSE
04896 048950 GO TO 0305.
04897 048960 IF TITC OF TIT = 011
04898 048970 AND TITC OF TIT = 002
04899 048980 NEXT SENTENCE ELSE
04900 048990 GO TO 0305.
04901 049000 IF REVENUE-OUT-QTY > 0
04902 049010 GO TO 0305.
04903 049020 IF TRACT-ENTRY OF TIT NOT = 121
04904 049030 MOVE 025 TO TITC OF TIT
04905 049040 MOVE 001 TO INVESTIGATION-CODE OF TIT
04906 049050 MOVE 1 TO REVENUE-100
04907 049060 GO TO 0400-PRICE-STR-FRAME-INPUT.
04908 049070 0305.
04909 049080 IF TITC OF TIT = 011
04910 049090 AND TITC OF TIT = 006
04911 049100 GO TO 0305.
04912 049110 IF TITC-10-CODE OF TIT = '2A9'
04913 049120 GO TO 0305.
04914 049130 IF TITC-10-CODE OF TIT = '2B8'
04915 049140 GO TO 0305.
04916 049150 IF TITC-10-CODE OF TIT = '1A1'
04917 049160 OR TITC-10-CODE OF TIT = '100'
04918 049170 GO TO 0400-PRICE-STR-FRAME-INPUT.
04919 049180 IF TITC OF TIT = 055
04920 049190 OR 091
04921 049200 GO TO 0400-PRICE-STR-FRAME-INPUT.
04922 049210 MOVE ZEROS TO REVENUE-OUT-QTY.
04923 049220 MOVE TITC-10-CODE OF TIT TO REVENUE-OUT-QTY.
04924 049230 IF TITC-10-CODE OF TIT = '261'
04925 049240 OR '26A'
04926 049250 OR '09B' NEXT SENTENCE

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## IX. Program P50ALB - DHF Update

### 1. Current Processing

When an AE status 'BH' (substitute issue) is output to the customer (ITC 025 ITSC 005), Program P50ALB generates a demand reversal on the substitute stock number. Status transactions (ITC 025 ITSC 005) produce demand reversals when the status code matches an entry on Code Table DHSTATBL (Program paragraph 3820). Since 'BH' is on the code table, Program P50ALB formats a demand reversal from the status transaction, which contains the substitute stock number.

### 2. Results of Current Processing

Demand reversals for the substitute stock number are being produced when a BH status is processed. These reversals cannot (and should not) be processed in Demand Analysis because the demand was (correctly) recorded against the requested stock number. In the example shown in Appendix E, pages E-30 to E-35, (and all other examples collected during this study), the status was generated because the manager forced the backorder release of a substitute item (Z7S). Since these demand reversals are normally rejected in the Demand Analysis process, the Demand Master File is not invalidated, unless the reversal happens to match a valid demand for the substitute stock number, in which case, the valid demand would be cancelled.

### 3. Corrective Action

The contents of the DHSTATBL (and its usage by other programs) require further analysis. It is doubtful that, within the current design, a demand reversal should ever be produced for the substitute stock number on a 'BH' status. See Appendix D, paragraph 1.4, page D-2 for documentation discrepancies and paragraph 3.4.8, page 3-39, for use of substitute stock number.

Possible temporary coding to bypass creating a demand reversal on a 'BH' status is shown on page A-54.

02303	23020	IF SUB2 > 0	771A8
02304	23010	GO TO 3790.	771B8
02305	23040	3310-DUP-EXIT.	771A8
02306	23010	EXIT.	771A8
02307	23070	3420.	771A8
02308	23070	IF TSTATUS-CODE OF TIN = 'CA'	771A8
02309	23010	MOVE TPROJECT-REASON OF TIN TO TNUJECT-REASON.	771A8
02310	23010	IF TDC-IO-DATE OF TIN = 'A'	771A8
02311	23010	MOVE TPROJECT-DATE OF TIN TO TNUJECT-DATE.	771A8
02312	23010	PERFORM 0220-CREATE-HIST-SEG THRU 0350-EXIT.	771A8
02313	23020	IF TISC RF TIN = 005 OR 006	771A8
02314	23020	NEXT SENTENCE ELSE	771A8
02315	23020	GO TO 0400-RITE-STR-FROM-INPUT.	771A8
02316	23040	SET STATUS-INDEX TO 1.	771A8
02317	23010	SEARCH STATUS-TABLE	771A8
02318	23070	WHEN STATUS-ENTRY (STATUS-INDEX) = HIGH-VALUES	771A8
02319	23010	GO TO 0400-RITE-STR-FROM-INPUT	771A8
02320	23020	WHEN STATUS-CODE OF TIN = STATUS-ENTRY (STATUS-INDEX)	771A8
02321	23040	GO TO 3935.	771A8
02322	23010	3535.	771A8
02323	23020	IF WMSO-TIN = 0	771A8
02324	23020	GO TO 0400-RITE-STR-FROM-INPUT.	771A8
02325	23040	MOVE TIN TO TIT.	771A8
02326	23050	PERFORM 0400-RITE-STR-FROM-OUTPUT THRU 0520-EXIT.	771A8
02327	23050	PERFORM 2220-DWA-OR THRU 2230-DWA-EXIT.	771A8
02328	23070	MOVE TOUT TO TIN.	771A8
02329	23070	IF TTY OF TIT < WMSO-OUT-CTY	771A8
02330	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02331	23070	ELSE	771A8
02332	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02333	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02334	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02335	23070	GO TO 0410-RITE-STR-FROM-INPUT.	771A8
02336	23070	3870-FREE-ISSUE.	771A8
02337	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02338	23070	IF TTY OF TIN > 0	771A8
02339	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02340	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02341	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02342	23070	GO TO 0410-RITE-STR-FROM-INPUT.	771A8
02343	23070	3870-FREE-ISSUE.	771A8
02344	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02345	23070	IF TTY OF TIN > 0	771A8
02346	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02347	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02348	23070	GO TO 0410-RITE-STR-FROM-INPUT.	771A8
02349	23070	3870-FREE-ISSUE.	771A8
02350	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02351	23070	IF TTY OF TIN > 0	771A8
02352	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02353	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02354	23070	GO TO 0410-RITE-STR-FROM-INPUT.	771A8
02355	23070	3870-FREE-ISSUE.	771A8
02356	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02357	23070	IF TTY OF TIN > 0	771A8
02358	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02359	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02360	23070	GO TO 0410-RITE-STR-FROM-INPUT.	771A8
02361	23070	3870-FREE-ISSUE.	771A8
02362	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02363	23070	IF TTY OF TIN > 0	771A8
02364	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02365	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02366	23070	GO TO 0410-RITE-STR-FROM-INPUT.	771A8
02367	23070	3870-FREE-ISSUE.	771A8
02368	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02369	23070	IF TTY OF TIN > 0	771A8
02370	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02371	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02372	23070	GO TO 0410-RITE-STR-FROM-INPUT.	771A8
02373	23070	3870-FREE-ISSUE.	771A8
02374	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02375	23070	IF TTY OF TIN > 0	771A8
02376	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02377	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02378	23070	GO TO 0410-RITE-STR-FROM-INPUT.	771A8
02379	23070	3870-FREE-ISSUE.	771A8
02380	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02381	23070	IF TTY OF TIN > 0	771A8
02382	23070	MOVE TIT TO TMANAGEMENT-CODE OF TIN	771A8
02383			



## X. Program P69ALB - Document History Validation

### 1. Current Processing

Erroneous demand cancellations are produced when substitute items are received on passing actions. The inputs are Intransit Receipt Confirmations (DIC B9A, B9B, or DWA). These transactions are processed by the same logic that is used to process the Receipt/Issue Transaction (Z6T). The Z6T contains the quantity reported shipped (miscellaneous quantity) and the quantity actually received and issued (transaction quantity). The system provides for the cancellation of the difference if the shipped quantity is greater than the received/issue quantity (status code CA, reject reason code NC. See TM38-711-6X, Paragraph 3-21). This is not applicable to B9\_ or DWA processing but since the pre-edit sets the miscellaneous quantity equal to the transaction quantity for these transactions, the 'CA' cancellation should never be produced when processing a intransit receipt confirmation.

There is a minor program discrepancy in P69ALB which sometimes causes an erroneous 'CA' cancellation to be generated for Z6T's. Since intransit receipt confirmations use the same program path, erroneous 'CA' cancellations are also generated for these transactions. The error occurs only when a substitute item is received. Customers are receiving 'CA' cancellation status for partial quantities of passing actions which have been totally filled under a substitute stock number and demands are being cancelled (reversed) for items received under a substitute stock number. (See Appendix E, Example 7, page E-21.)

When the stock number of the intransit receipt differs from the stock number on the document history file, program P69ALB accesses the I&S file, (paragraph 1481-READ-INSUB-FILE) picks up the quantity conversion factor for the two stock numbers and converts both the transaction quantity and the miscellaneous quantity in a work area (paragraph 1483-CONVERT-QTY). If the stock numbers are not on the I&S file, the transaction is rejected unless the MEC is '2' (paragraph 1483-EPC-416).

If the MEC code is '2' and the units of issue are unequal, the unit of issue conversion table is used to convert the two quantities. (The transaction is rejected if the units of issue are not on the table.) (Paragraph 1483-INQUIRE-DUICNVFC-TBL.)

If the MEC is '2' and the units of issue are equal, the quantities are not converted. The miscellaneous quantity (or the due-in quantity) is moved to the converted miscellaneous quantity but the converted transaction quantity is not updated. The 'converted transaction quantity' field contains the quantity left over from the last use of the field. (Paragraph 1488-UI-EQUAL-SUBSTITUTE.)

In all cases, the transaction is later tested (paragraph 1431E-GEN-AE1-NC) for cancellation of the 'short' quantity. If the converted transaction quantity is less than the converted miscellaneous quantity, a 'CA' status is produced to the customer. (P50ALB generates a demand cancellation from the 'CA' status.)

If the transaction has processed through the 'equal units of issue' program path, the 'CA' status to the customer and the generated demand reversal are in error.

## 2. Corrective Action

Cancellations of 'short' quantities should not occur on B9A, B9B, and DWA transactions. Cancellation of 'short' quantities for Z6T transactions should occur only when the quantity reported shipped (miscellaneous quantity) exceeds the quantity actually received and issued (transaction quantity) and the quantity cancelled should equal the difference between the miscellaneous quantity and the transaction quantity of the Z6T.

The coding in the 'equal units of issue' program path should be changed (page A-60) to move the transaction quantity to the converted transaction quantity. This change will prevent the erroneous cancellations resulting from B9A, B9B, and DWA transaction input and will ensure that the cancellations of 'short' quantities resulting from Z6T transactions will be correctly generated.

## 3. Additional Correction

See Paragraph 1486-CRT-AE3-DFZ-DGZ.

If the converted miscellaneous quantity is zero, it is set to one with the note 'moving one to preclude conversion resulting in zero qty'. If the converted

miscellaneous quantity is zero, it is likely that the converted transaction quantity is also zero. The converted transaction quantity, if zero, should also be set to one to preclude the generation of an erroneous cancellation for a quantity of one. (Page A-60.)

23 Feb 1978

04344	031110	CONVERTED-MISC-QTY DELETED.	P69AL07P
04345	031120	MULTIPLY TQTY BY HLD-DUIC-CONV-FACTOR GIVING CONVERTED-TQTY	P69AL07P
04346	031130	POUNDED.	P69AL07P
04347	031140	GO TO 1436-CRT-AC3-DEF-067.	P69AL07P
04348	031150*	NOTE 201, 067.	P69AL07P
04349	031160	1483-ERC-416.	P69AL07P
04350	031170	IF T4GT-ENTRY NOT EQUAL ?	70036
04351	031180	PERFORM 416-EXC THRU 4000-EXCEPTIONS-EXIT	70036
04352	031190	GO TO 1494-EXIT.	77101
04353	031200	IF TUNIT-OF-ISSUE = WHOLE-OF-ISSUE	77101
04354	031210	GO TO 1498-UI-EQUAL-SUBSTITUTE	77101
04355	031220	ELSE GO TO 1433-INDUPE-DUIC-DEF-TRC.	77101
04356	031230	1483-INQUIRE-DUIC-DEF-TPI.	P69AL07P
04357	031240*	SEARCH DUIC-DEF-ARGUMENT ST0-000001, GO MATCH SEARCH AGAIN	P69AL07P
04358	031250*	ARGUMENT REVERSED INDICIST-STR.	P69AL07P
04359	031260	MOVE TUNIT-OF-ISSUE TO ARG-1-2.	P69AL07P
04360	031270	MOVE WHOLE-OF-ISSUE TO ARG-3-4.	P69AL07P
04361	031280	PERFORM 1490-SKCH-TAL THRU 1490-SKCH-EXIT.	P69AL07P
04362	031290	IF DUIC-UNITS (PCKSY) = HIGH-VALUES	P69AL07P
04363	031300	GO TO 1484-REVERSE-UI.	P69AL07P
04364	031310	GO TO 1483-CONVERT-QTY.	P69AL07P
04365	031320	1484-REVERSE-UI.	P69AL07P
04366	031330	MOVE WHOLE-OF-ISSUE TO ARG-1-2.	P69AL07P
04367	031340	MOVE TUNIT-OF-ISSUE TO ARG-3-4.	P69AL07P
04368	031350	PERFORM 1490-SKCH-TAL THRU 1490-SKCH-EXIT.	P69AL07P
04369	031360	IF DUIC-UNITS (PCKSY) = HIGH-VALUES	P69AL07P
04370	031370	GO TO 1485-416-EXC.	P69AL07P
04371	031380	DIVIDE HLD-DUIC-CONV-FACTOR INTO +1 GIVING	P69AL07P
04372	031390	HLD-DUIC-CONV-FACTOR.	P69AL07P
04373	031400	GO TO 1483-CONVERT-QTY.	P69AL07P
04374	031410	1485-416-EXC.	P69AL07P
04375	031420	PERFORM 416-EXC THRU 4000-EXCEPTIONS-EXIT.	P69AL07P
04376	031430	GO TO 1494-EXIT.	P69AL07P
04377	031440	1486-CRT-AC3-DEF-067.	P69AL07P
04378	031450	IF CONVERTED-MISC-QTY = ZFEF	P69AL07P
04379	031460	MOVE UP TO CONVERTED-MISC-QTY.	P69AL07P
04380	031470*	NOTE ** MOVING ONE TO RECLUDE CONVERSION RESULTING IN	P69AL07P
04381	031480*	ZERO QTY **	P69AL07P
04382	031490	MOVE TDOC-ID-CODE TO TPRINT-DIC.	70263
04383	031500	PERFORM 1437A-GEN-AC3 THRU 1437A-EXIT.	P69AL07P
04384	031510	IF RECEIPT	P69AL07P
04385	031520	MOVE 3 TO TAF-ENTRY-CCOF.	P69AL07P
04386	031530	IF CONVERTED-MISC-QTY > WHOLE-IN-QTY	P69AL07P
04387	031540	MOVE WHOLE-IN-QTY TO TQTY	P69AL07P
04388	031550	ELSE	P69AL07P
04389	031560	MOVE CONVERTED-MISC-QTY TO TQTY.	P69AL07P
04390	031570	MOVE FIVE TO TITSC.	P69AL07P
04391	031580	PERFORM 3000-WAL-WR THRU 3000.	P69AL07P
04392	031590	1486-A-CRT-CONTD.	P69AL07P
04393	031600	MOVE TUNIT TO TIN.	P69AL07P
04394	031610	PERFORM 5450-WILD-DUEIN THRU 5000-GENERATE-EXIT.	P69AL07P
04395	031620	MOVE WHOLE-IN-QTY TO TQTY.	77101
04396	031630	MOVE SPACES TO TPRINT-DIC.	P69AL07P

← INSERT



04397	031640	PERFORM 3000-BAL-AR THRU 3009.	069AL BZP
04398	031650	MOVE TOUT1 TO T1N.	069AL BZP
04399	031660	IF T00C-ID-CODE = '767'	069AL BZP
04400	031670	OR T00C-ID-MAIN = '899'	069AL BZP
04401	031680	OR '0W'	069AL BZP
04402	031690	MOVE SPACES TO TPRINT-DIC	069AL BZP
04403	031700	PERFORM 5500-MULTI-DUE THRU 5000-DEFEATF-EXIT	069AL BZP
04404	031710	PERFORM 3000-BAL-AR THRU 3019.	069AL BZP
04405	031720	1486-R-CRT-CUNTD.	069AL BZP
04406	031730	MOVE TOUT1 TO T1N.	069AL BZP
04407	031740	IF T00C-ID-MAIN EQUAL '899'	069AL BZP
04408	031750	OR '0W'	069AL BZP
04409	031760	MOVE 'AF9' TO TPRINT-DIC	069AL BZP
04410	031770	ELSE	069AL BZP
04411	031780	MOVE 'AF3' TO TPRINT-DIC.	069AL BZP
04412	031790	MOVE WHSTOCK-NK TO TSWAST-STOCK-NK.	069AL BZP
04413	031800	GO TO 1494-EXIT.	069AL BZP
04414	031810	1488-UI-EQUAL-SUBSTITUTE.	069AL BZP
04415	031820	MOVE T1N TO TOUT1.	069AL BZP
04416	031830	IF T00C-ID-CODE = '767'	069AL BZP
04417	031840	OR '89A'	069AL BZP
04418	031850	OR '0W'	069AL BZP
04419	031860	OR '89H' NEXT SENTENCE	069AL BZP
04420	031870	ELSE	069AL BZP
04421	031880	GO TO 1488A-D6.	069AL BZP
04422	031890	PERFORM 1437A-GEN-AE3 THRU 1437A-EXIT.	069AL BZP
04423	031900	IF TMSCELL-QTY > WHDUE-IN-QTY	069AL BZP
04424	031910	MOVE WHDUE-IN-QTY TO TQTY	069AL BZP
04425	031920	MOVE WHDUE-IN-QTY TO CONVERTED-MISC-QTY	069AL BZP
04426	031930	ELSE	069AL BZP
04427	031940	MOVE TMSCELL-QTY TO TQTY	069AL BZP
04428	031950	MOVE TMSCELL-QTY TO CONVERTED-MISC-QTY.	069AL BZP
04429	031960	GO TO 1488D.	069AL BZP
04430	031970	1488A-D6.	069AL BZP
04431	031980	IF TQTY > WHDUE-IN-QTY NEXT SENTENCE	069AL BZP
04432	031990	ELSE	069AL BZP
04433	032000	MOVE TQTY TO CONVERTED-MISC-QTY	069AL BZP
04434	032100	GO TO 1488C.	069AL BZP
04435	032020	MOVE WHDUE-IN-QTY TO CONVERTED-MISC-QTY.	069AL BZP
04436	032030	IF TMS-ENTRY = 2	069AL BZP
04437	032040	GO TO 1488B.	069AL BZP
04438	032050	IF WHDUEGET-ACCT-CODE = 2	069AL BZP
04439	032060	GO TO 1489-EXCESS-CHECK.	069AL BZP
04440	032070	1488B.	069AL BZP
04441	032080	MOVE WHDUE-IN-QTY TO TQTY.	069AL BZP
04442	032090	1488C.	069AL BZP
04443	032100	PERFORM 1437A-GEN-AE3 THRU 1437A-EXIT.	069AL BZP
04444	032110	1488D.	069AL BZP
04445	032120	IF RECEIPT	069AL BZP
04446	032130	MOVE 3 TO TAE-REENTRY-CODE.	069AL BZP
04447	032140	MOVE SPACES TO TPRINT-DIC.	069AL BZP
04448	032150	MOVE FIVE TO T1TSC.	069AL BZP
04449	032160	PERFORM 3000-BAL-AR THRU 3009.	069AL BZP

INSERT -

MOVE TQTY TO  
CONVERTED-MISC-QTY.

→DELETE

→DELETE

[illegible]

APPENDIX B  
QUARTERLY STRATIFICATION REPORT PROGRAM CODING CHANGES

1. Current Processing

Program P90ALB reads the first ten detail demand records from the header record, separately accumulating non-stockage demands, non-recurring demands, and recurring demands. Obligated stocks and unit turn-ins are excluded.

If demands have been recorded for more than ten units, the subsequent detail demand records are contained in a series of continuation records. When these continuation records are processed, the tests applied to the header record are either not in the program or not accessed by the logic.

2. Current Results

Demand rates in all but the first ten detail records are classified and reported on the QSR as stockage, non-recurring demands. This includes obligated stocks and unit turn-ins.

3. Corrective Action

Classify and report all demand rates uniformly.

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01800	011720	UNIT-OF-ISSUE IN WSOP-ABF-HEADER	77056
01801	011730	MOVE 'A' TO S-EXCA-FLAG	P90ALBZJ
01802	011740	605-MEMO-TEST	P90ALBZJ
01803	011750	IF DEMO-RECORD IN WORK-MASTER	77056
01804	011760	PERFORM 685-READ-DMO-REC THRU 688-EXIT	77056
01805	011770	GO TO 600-READ-DEMO-RTE.	77056
01806	011780	610-DMO-HEAD-RTE.	P90ALBZJ
01807	011790	IF CONTINUATION-RECORD IN WORK-MASTER	P90ALBZJ
01808	011800	GO TO 600-DMO-CONT.	P90ALBZJ
01809	011810	MOVE WORK-MASTER TO STOCKAGE-HEADER-WORK-RECORD.	P90ALBZJ
01810	011820	MOVE 1 TO DMO-SUBS.	P90ALBZJ
01811	011830	620-DMO-HEAD-UNIT.	P90ALBZJ
01812	011840	IF NUMBER-OF-UNITS IN HEADER-DATA = ZERO	P90ALBZJ
01813	011850	MOVE ZERO TO NUMBER-OF-UNITS IN HEADER-DATA.	P90ALBZJ
01814	011860	IF NUMBER-OF-UNITS IN HEADER-DATA IS < 1	P90ALBZJ
01815	011870	GO TO 650-END-DMO-PRO.	P90ALBZJ
01816	011880	MOVE SUBRECORD (DMO-SUBS) TO UNIT-WORK-RECORD.	P90ALBZJ
01817	011890	IF OBLIGATED-STOCKS IN WORK-SUBRECORD	P90ALBZJ
01818	011900	GO TO 620-DUMMY.	P90ALBZJ
01819	011910	IF TURN-INS IN WORK-SUBRECORD	P90ALBZJ
01820	011920	GO TO 620-DUMMY.	P90ALBZJ
01821	011930	IF STOCKAGE-FLAG IN WSOP-ABF-HEADER = 'Z'	77056
01822	011940	OR	P90ALBZJ
01823	011950	ADD UNIT-DEMAND-RATE TO S-NON-STK-CT	P90ALBZJ
01824	011960	GO TO 620-DUMMY.	P90ALBZJ
01825	011970	IF NON-RECUR-VON-DSS IN WORK-SUBRECORD	P90ALBZJ
01826	011980	ADD UNIT-DEMAND-RATE TO S-NON-RIS-CT	P90ALBZJ
01827	011990	GO TO 620-DUMMY.	P90ALBZJ
01828	012000	IF NON-RECUR-DSS IN WORK-SUBRECORD	P90ALBZJ
01829	012010	ADD UNIT-DEMAND-RATE TO S-NON-RIS-CT	P90ALBZJ
01830	012020	GO TO 620-DUMMY.	P90ALBZJ
01831	012030	IF RECURRING-VON-DSS IN WORK-SUBRECORD	P90ALBZJ
01832	012040	ADD UNIT-DEMAND-RATE TO S-RD-ITEMS-CT	P90ALBZJ
01833	012050	GO TO 620-DUMMY.	P90ALBZJ
01834	012060	IF RECURRING-DSS IN WORK-SUBRECORD	P90ALBZJ
01835	012070	ADD UNIT-DEMAND-RATE TO S-RD-ITEMS-CT	P90ALBZJ
01836	012080	GO TO 620-DUMMY.	P90ALBZJ
01837	012090	IF REPAIR IN WORK-SUBRECORD	P90ALBZJ
01838	012100	ADD UNIT-DEMAND-RATE TO S-RD-ITEMS-CT	P90ALBZJ
01839	012110	GO TO 620-DUMMY.	P90ALBZJ
01840	012120	620-DUMMY.	P90ALBZJ
01841	012130	ADD 1 TO DMO-SUBS.	P90ALBZJ
01842	012140	IF DMO-SUBS > NUMBER-OF-UNITS IN HEADER-DATA NEXT SENTENCE	P90ALBZJ
01843	012150	ELSE	P90ALBZJ
01844	012160	GO TO 620-DMO-HEAD-UNIT.	P90ALBZJ
01845	012170	650-END-DMO-PRO.	P90ALBZJ
01846	012180	MOVE 1 TO DMO-SUBS.	P90ALBZJ
01847	012190	PERFORM 685-READ-DMO-REC THRU 688-EXIT.	P90ALBZJ
01848	012200	GO TO 600-READ-DEMO-RTE.	P90ALBZJ
01849	012210	660-DMO-CONT.	P90ALBZJ
01850	012220	MOVE 1 TO DMO-SUBS.	P90ALBZJ
01851	012230	665-DMO-CNT-LUMP.	P90ALBZJ
01852	012240		P90ALBZJ

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01853 012250 IF OMD-SURS > CONT-NUMBER-OF-UNITS
01854 012260 GO TO 650-END-OMD-PRU.
01855 012270 MOVE CONT-SUBRECORD IN WORK-MASTER (OMD-SURS) TO
01856 012280 UNIT-FURK-RECORD.
01857 012290 ADD UNIT-DEMAND-RATE TO S-NON-ROS-CT
01858 012300 GO TO 620-DJMMYCONT.
01859 012310 IF NON-RECUR-OSS IN WORK-SUBRECORD
01860 012320 AND UNIT-DEMAND-RATE TO S-NON-ROS-CT
01861 012330 GO TO 620-DJMMYCONT.
01862 012340 IF RECURRING-NON-OSS IN WORK-SUBRECORD
01863 012350 ADD UNIT-DEMAND-RATE TO S-RO-ITEMS-CT
01864 012360 GO TO 620-DJMMYCONT.
01865 012370 IF RECURRING-OSS IN WORK-SUBRECORD
01866 012380 ADD UNIT-DEMAND-RATE TO S-RJ-ITEMS-CT
01867 012390 GO TO 620-DJMMYCONT.
01868 012400 IF REPAIR IN WORK-SUBRECORD
01869 012410 ADD UNIT-DEMAND-RATE TO S-RO-ITEMS-CT
01870 012420 GO TO 620-DJMMYCONT.
01871 012430 ADD UNIT-DEMAND-RATE TO S-RO-ITEMS-CT.
01872 012440 620-DJMMYCONT.
01873 012450 ADD 1 TO OMD-SURS.
01874 012460 GO TO 665-OMD-CUNT-LOTP.
01875 012470 680-RFAD-OMD-EXT.
01876 012480 EXIT.
01877 012490 665-READ-OMD-REC.
01878 012500 READ OMD-PASI
01879 012510 AT END
01880 012520 GO TO 900-OMD-EOJ.
01881 012530 IF DEMAND-RECORD IN WORK-MASTER
01882 012540 AND DEM-FSN-STOPE & STOCK-NR IN WORK-MASTER
01883 012550 DISPLAY OMD-DUPE-MSG STOCK-NR IN WORK-MASTER
01884 012560 MOVE 11 TO DUP-SW
01885 012570 GO TO 685-HEAD-OMD-REC.
01886 012580 IF DEMAND-RECORD IN WORK-MASTER
01887 012590 MOVE STOCK-NR IN WORK-MASTER TO DEM-FSN-STOPE.
01888 012600 688-EXIT.
01889 012610 EXIT.
01890 012620 690-COMPUTE-OMD.
01891 012630 DIVIDE S-NON-STOCK-CT BY 3 GIVING S-PRING-PEND-RT.
01892 012640 ADD S-PRING-MEMO-RT, S-ROS-STK-CT GIVING S-NON-STK-RT.
01893 012650 AND S-RO-ITEMS-CT, S-NON-ROS-CT, S-RO-STK-RT TO
01894 012660 S-BAL-AFAR-CT.
01895 012670 MULTIPLY S-RU-ITEMS-CT BY 12 GIVING SUBP1-CT.
01896 012680 MULTIPLY S-UN-ROS-CT BY 12 GIVING SUBP2-CT.
01897 012690 MULTIPLY S-RU-STK-RT BY 12 GIVING SUBP3-CT.
01898 012700 IF SUBP1-CT > 0
01899 012710 AND SUBP1-CT < 1
01900 012720 MOVE 1 TO SUBP1 (1)
01901 012730 ELSE
01902 012740 MULTIPLY SUBP1-CT BY 1 GIVING SUBP1 (1) FOUND.
01903 012750 IF SUBP2-CT > 0
01904 012760 AND SUBP2-CT < 1
01905 012770 MOVE 1 TO SUBP2 (1)

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INDEX



## APPENDIX C

### SUPPLY PERFORMANCE PROGRAM CODING CHANGES

#### 1. Current Processing

In Program P11ALBZA, demand satisfaction is calculated by excluding requisitions without MRO's. Also, there is no specific exclusion for MRO's which resulted from backorder releases during the period.

#### 2. Result of Current Processing

The effect of the coding is to compare MRO's 90 percent or more filled against the total of all MRO's, not excluding MRO's generated as the result of backorder releases.

#### 3. Corrective Action

a. Instead of excluding all requisitions with no MRO, exclude requisitions open in stock control.

b. Count requisitions as "qualified for demand satisfaction but not filled" if there has been a backorder for more than 10 percent of the requisition quantity.

7 MAY 1978

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03130	029460***	- 4, 21A+ (0211+01C)	JUALIFIED	7625+
03131	029470***	= 5, 21A5 (0211501C)	FDR DAD	76254
03132	029480***	= 6, 21A6 (0211601C)	SAT RJT	76254
03133	029490***		NOT FILLED	76254
03134	029500***		***	76254
03135	029510***		*****	76202
03136	029530	IF WS35-SERVICE EQUAL WS33-PI		76339
03137	029540	GO TO 7259-DS-EXIT.		76339
03138	029550	IF WS29-A5 LESS THAN WS33-B1		76198
03139	029560	AND WS29-MRD LESS THAN WS33-B1		76198
03140	029570	GO TO 7269-DS-EXIT.		76198
03141	029580	IF WS75-AOC-PEV EQUAL WS33-PI		76198
03142	029590	GO TO 7259-DS-EXIT.		76198
03143	029600	IF WS29-STR-NSTR EQUAL WS33-PI		75198
03144	029610	GO TO 7269-DS-EXIT.		76198
03145	029620	IF WS05-DIC-MAIN NOT EQUAL WS33-CAO		76198
03146	029630	GO TO 7269-DS-EXIT.		76198
03147	029640	IF WS33-PRCT-FILL		76198
03148	029650	GO TO 7269-DS-EXIT.		76198
03149	029660	IF WS29-AOC-REF J GREATER THAN WS33-PO		76198
03150	029670	GO TO 7269-DS-EXIT.		76198
03151	029680	ADD WS05-QUANTITY TO WS31-TOT-AO-QTY.		76198
03152	029690	IF WS31-TOT-AO-QTY EQUAL WS33-PO OR WS31-TOT-A5-QTY EQUAL		76198
03153	029700	WS33-PO		76198
03154	029710	FLSF		76198
03155	029720	GO TO 7269-DS-EXIT.		76198
03156	029730	COMPUTE WS35-PRCT-FILL ROUNDED = WS31-TOT-A5-QTY * 100		76198
03157	029740	/ WS31-TOT-AO-QTY.		76198
03158	029750	IF WS35-PRCT-FILL GREATER THAN WS33-P39		76198
03159	029760	PERFORM 7170-2ND-RECORD THRU 7199-2R-EXIT		76198
03160	029770	ADD WS33-B1 TO WS29-LIC		76198
03161	029780	COMPUTE 0801-RPT-LINE-CTR (WS29-LIC) = WS35-SERVICE * 100P118ZA04		76198
03162	029790	+ 211002		76198
03163	029800	GO TO 7269-DS-EXIT.		76198
03164	029810	7265-DMO-QUALIFY.		76198
03165	029820	PERFORM 7170-2ND-RECORD THRU 7199-2R-EXIT.		76198
03166	029830	ADD WS33-B1 TO WS29-LIC.		76198
03167	029840	COMPUTE 0801-RPT-LINE-CTR (WS29-LIC) = WS35-SERVICE * 100 +		76198
03168	029850	211001.		76198
03169	029860	7269-DS-EXIT.		76198
03170	029870	EXIT.		76198
03171	029890	7270-GET-A0.		76198
03172	029910	*****	*****	76202
03173	029920***		***	76254
03174	029930***	ROUTINE TO PICK UP LATEST RON IF MORE THAN 1 ***		76254
03175	029940***		***	76254
03176	029950	*****	*****	76202
03177	029970	MOVE WS33-B1 TO WS29-SJ.		76254

REPLACE

INSERT





# COBOL PROGRAM SHEET

PROGRAM		SYSTEM		SHEET		OF		
PROGRAMMER		DATE		IDENT.				
		1978		73		80		
ST. NO.		44		56		68		
36		40		52		64		
28		32		44		56		
20		24		36		48		
12		16		28		40		
4		8		12		24		
1		3		5		7		
PAGE	SERIAL							
1	A							
2	B							
3	1							
4	2							
5	3							
6	4							
7	5							
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9	7							
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100	98							

## APPENDIX D

### INCIDENTAL FINDINGS RELATING TO SYSTEMS DOCUMENTATION

Incident to the analysis of program listings, it was noted that in some cases the documentation is inconsistent with the listings.

1. TM 38-L03-16 Functional Users Manual for SAILS Demand Analysis System.

a. Page 2-49, Paragraph 2-79h(27) describes a Supply Control Study field as "Number of unit records". This field is actually "NR-PLL/ASL UNITS" and shows the number of PLL/ASL units for the item. (See page D-3.)

b. The preceding paragraph 2-79h(26) "Percent demand satisfaction" describes a field which does not appear on the Supply Control Study. (See page D-3.)

c. Page 3-12, Paragraph 3-9c. The formula for computing the storage site trended demand rate (SSTDR) shows the new SSTDR as the divisor (see page D-4). The program listing shows the formula as:

(Previous SSTDR) (ONE-MINUS-ALPHA) +  
(New SSNDR) (ALPHA) = New SSTDR.

d. Page 3-16, Paragraph 3-12c. The example should read  
 $2/(48+1) = .0408$ . (See page D-5.)

e. Page 3-17, Paragraph 3-12f. The example should read  
 $400 \times .8462 + 400 \times .1538 = 400.000$  (see page D-6).

f. Page 3-18, Paragraph 3-13b(5). The example should read  
 $TWO-MINUS-ALPHA = 2-Z-ALPHA$  (see page D-7).

2. TM 38-711-6X (TEST) Supply Management, Page 19-2, Paragraph 19-7e. The programs which produce the QSR do not read the interchangeable and substitute file. (See page D-8.)

3. TM 38-L03-13 Files and Files Maintenance, Page 7-3, Paragraph 7-6a. Two typographical errors were noted. Unit records and fixed RO are assumed to be the intended words. (See page D-9.)

4. The following statement in TM 38-L03-6, Paragraph 2-13 requires clarification (See page D-10).

"when a substitute item is issued, the demand is recorded under the preferred stock number."

Normally, the demand is recorded under the requested stock number (or the "new" stock number if a catalog stock number change has occurred.) The one exception to this recording pertains to requisitions initially referred to the manager with an EPC shown on Control Table DHDMDEPC ("do not record demand"). When the manager directs the processing of the transaction and enters a substitute/interchangeable stock number in the reentry transaction, the demand is recorded under the stock number of the reentry transaction.

(21) Last levels. Field which indicates the date the last levels were computed on the item and forwarded to update the ABF and demand master file. This is not necessarily the same as the date of the last study since a study is not always generated when levels are computed and posted.

(22) Last study. Date the last SCS report was generated on the item. This is not always the same as the date of the last levels since a level can be computed and posted without an SCS being generated.

(23) Last demand. The Julian date of the most recent demand recorded for the item.

(24) R/O last study. The total requisitioning objective for the item studied. This RO quantity is the pivotal point for the plus and minus percentage values established in system control AUTH. Variable increases and decreases in RO range values are selected for each authority code 1 through 4. When an item exceeds the parameters, a supply control study report is produced for the study reason "significant R/O change."

(25) Level frequency. A variable in system control SCSF which specifies the maximum number of days between supply control study/new levels reviews. A separate review period is established for each authority code. Normal frequency is a levels reason which will not result in an SCS report unless combined with an established study reason.

➔ (26) Percent demand satisfaction. The cumulative percentage of demand satisfaction for item. The data are derived from the number of customer requests satisfied from SCA/IMSA stockage compared to the total number of requests recorded. The computation is made only if the item is on the SCA/IMSA ASL. Back orders established because of issue restrictions do not count in the determination of demand satisfaction for individual items.

➔ (27) Number of unit records. Number of unit records included in study. Dummy subrecords are included in this total.

(28) Levels reason. Reasons for initiation of new levels are included in the supply control study reason codes in appendix A, TM 38-L03-20. The levels reason displayed explains to the manager why the computer initiated the new level.

(29) Study reason. See appendix A, TM 38-L03-20 for supply control study reason codes. The study reason displayed explains to the manager why the internal review determined that a supply control study report should be output. When no study reason is identified, the new stockage levels are passed directly to the ABF without an SCS report.

d. Discussion of examples I and II. The submission and processing of a customer request for issue for a quantity of 100 generated a current UDR of 28.18, whereas the DIC AC1 for the same quantity, but 5 months old (which places it in the 6th period past), resulted in current UDR of 3.33. Because the transaction quantity was large (10 months of demand:  $\text{TRANSQTY}/\text{UNIT DR} = 100/10 = 10$ ; all demand rates in SAILS are monthly rates), the impact on the UDR was large in both cases, but less for the cancellation due to its age.

3-9. POSTING DEMAND RATES. The monthly demand update/SRS cycle posts unit, normal (storage site), and trended (storage site) demand rates.

a. Unit demand rates (UDR) are multiplied by ONE-MINUS-ALPHA and the new rate replaces the old values in the file.

b. All newly posted UDR are added together, by storage site. The total is posted to the storage site normal demand rate (SSNDR).

c. The storage site trended demand rate (SSTDR) is computed as follows:

$$\rightarrow \frac{(\text{Previous SSTDR}) (\text{ONE-MINUS-ALPHA}) + (\text{New SSNDR}) (\text{ALPHA})}{\text{New SSTDR}}$$

3-10. DEMAND RATE VARIANCE. a. Variance is a way of measuring how widely the actual demand rate differed from the forecasted demand rate. The greater the variance, the greater the need for a safety level to provide a given level of customer support. This paragraph shows how the demand rate variance (DRV) for an item is computed. Paragraph 3-33 discusses the use of this value in computing safety levels.

b. The computation uses a smoothing factor derived from the number of months used in the demand control period which is loaded in SC DSPC. Assume that that value is 12, then the DRV smoothing factor (DRVSF) is determined as follows:

NR-Months divide by 2 = SUB-1; (12 divided by 2 = 6)

SUB-1 + 1 = SUB-2; (6 + 1 = 7)

2 divided by SUB-2 = DRV smoothing factor; (2/7 = .2857)

DRVSF = .2857

ONE-DRVSF = .7143

now consider that the reorder point (ROP) was hit at the end of the first week of the new month; the only demand we have received was the demand that brought us to the ROP - a demand for 30. There are three weeks remaining in the month, but we have already received what amounts to a full month's demands. Will we receive more demands in the next three weeks? Or, is the current demand the only demand that will be received this period?

c. Simply put, the question is how are current period demands "translated" into the equivalent of a full monthly demand rate when RO are computed before a full month has passed? The DAS generates an adjusting factor to accomplish this. The factor changes each day during the month. The DAS uses four and five week months, as defined in SC DSPC. This is done because demand cycles are run weekly and monthly in an attempt to keep the runs confined to a weekend when more computer time will be available. With two different length periods, the adjusting factors will be different for the same numbered day of the month. That is, the adjusting factor on the 10th day of a 28-day month will not be the same as for the 10th day of a 35-day month.

d. The adjusting factor is derived in this manner:

$$(1) \quad \frac{(\text{NR OF DAYS IN MONTH}) *}{(\text{TODAYS DATE-DATE MONTH BEGAN} * + 1)} \quad \times$$

$$(\text{NR OF MONTHS IN DEMAND FORECAST} *) = W$$

\* All defined in SC DSPC.

$$2/(W+1) = Z$$

$$(1-Z) = \text{Adjusting factor (AF)}$$

(2) For example, for levels computations done on the 7th day of a 28-day month, the derivation would be:

$$\frac{28}{((76007-76001) + 1)} \times 12 = 48$$

→  $2/(48 \times 1) = .0408$

$$1 - .0408 = .9592$$

$$\text{AF} = .9592$$

(3) A levels computation done on the 7th day of a 35-day month would generate:

$$\frac{35}{7 \times 12} = 60$$

$$2/61 = .0328$$

$$1 - .0328 = .9672 = \text{AF}$$

(4) Tables outlining the adjusting factors for 28-day periods and 35-day periods are given at appendixes D and E, respectively.

e. The use of the adjusting factor will be illustrated next. Assume an NDR for the storage site of 400.000, a 28-day month, demands of 100 received during each of the four weeks, no DRAQ, no % NR-considered-as-R has been applied, and levels computations at the end of each week:

	<u>Week 1</u>	<u>Week 2</u>	<u>Week 3</u>	<u>Week 4</u>
Previous SSNDR	400.000	400.000	400.000	400.000
+ 1st wk Demands	18.180	18.180	18.180	18.180
+ 2nd wk Demands	NA	18.180	18.180	18.180
+ 3rd wk Demands	NA	NA	18.180	18.180
+ 4th wk Demands	NA	NA	NA	18.180
Current SSNDR	418.180	436.360	454.540	472.720
X Adj Factor	<u>.9592</u>	<u>.9200</u>	<u>.8824</u>	<u>.8462</u>
DR used for RO	401.12	401.45	401.09	400.02

(Weekly demands computed as per example in subparagraph 3-8b).

f. Two things are apparent from this illustration: The AF declines as the month passes, until at the end of the period the mathematics effectively follows the classical exponential smoothing formula (old demand rate x one-minus-smoothing factor) + new demand rate x smoothing factor:

→  $400 \times .8462 + 400 \times .1538 + 400.000$ ; and the technique employed generates a slightly inflated demand rate in the middle weeks of the month.

g. The significance of this for the item manager is discussed in paragraph 3-14.

3-13. TRENDING. a. The posting of trended demand rates (TDR) at month-end was discussed in paragraph 3-11, and changes made during the month because of receiving an aged transaction, in paragraph 3-8. This paragraph discusses the adjusting of and the use of TDR in RO computation.

b. Adjusting. Before levels are computed, the program computes several factors based on the current date and the values loaded into SC DSPC. These values, and subparagraph references, follow:



AD-A194 767

SYSTEM AUDIT OF THE STANDARD ARMY INTERMEDIATE LEVEL

3/3

SYSTEM (SAILS) ABC(X)(U) COMPUTER SCIENCES CORP

UNCLASSIFIED

HUNTSVILLE AL SEP 78 DWA639-76-R-9235

F/G 15/5

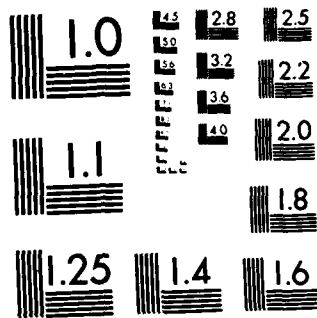
NL

END

DATE

FILED

8



MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

- (1) Z (subpara 3-12c(1)) e.g., .0408\*
- (2) 1-Z = AF (subpara 3-12c(1)) e.g., .9592\*
- (3) ALPHA = Smoothing factor (subpara 3-7c) = .1538
- (4) ONE-MINUS-ALPHA (subpara 3-7c) = .8462
- (5) TWO-MINUS-ALPHA = 2-A-ALPHA  
= 2-0408-.1538 = 1.805\*

\*Recall that these values will depend on the day of the month that the levels computation is performed.

c. Use of trend. The SC TRND value and the number (frequency) of recurring demands determines whether the forecast demand rate will be singly or doubly smoothed. If the demand frequency total is less than the value in SC TRND, the demand rate used for computing the RO will be the SSNDR plus any DRAQ used. If the demand frequency total is equal to or greater than the SC TRND values, the demand rate used for computing the RO, called the forecasted demand rate (FDR), is developed as follows:

$$(1) \frac{(\text{Two-Minus-Alpha}) \times \text{SSNDR} - (1-Z) \times \text{SSTD}}{(\text{One-Minus-Alpha})}$$

(2) For example:

$$\text{FDR} = \frac{(1.805 \times 600.000) - (.9592 \times 800.000)}{.8462}$$

d. Demand rates used for RO computation:

(1) Without trend:

$$\text{SSNDR} + \text{DRAQ} + \% \text{NR-AS-R} = \text{DR used for RO}$$

(2) With trend:

$$\text{FDR} + \text{DRAQ} + \% \text{NR-AS-R} = \text{DR used for RO}$$

e. Note the only difference is the DR to be used. The question to be resolved now is, is trending desirable? In other words, should we use it, and at what point - i.e., what value should be loaded into SC TRND? The larger the value (greater number of demands required), the fewer the items that will receive double exponential smoothing, the fewer the items that will track early changes in demand trend, and the lower the demand satisfaction/

1 November 1977

(claimant stocks).

(2) No unit price (exception code "C" records).

(3) SAILS PLUS transactions.

b. Secondary item inventories which are not mechanically accounted for under the SAILS ABX QSR procedures, e.g., self service supply center, clothing sales store, and SAILS PLUS, should be manually incorporated by supply managers into the Quarterly Stratification Reports separately by materiel category and all applicable lines and columns of the reports adjusted accordingly.

## Section II. QSR INPUTS

19-6. GENERAL. The QSR processes utilize the following inputs to manipulate, calculate, sort, and format data into report form.

19-7. MASTER FILE DATA. Data from the following computer files are accessed to generate the QSR reports:

a. The purified ABF (negative on hand quantities have been converted to zero quantity) is the basic source file used to prepare the QSR reports. Data from the ABF control segment, ABF catalog header segment, storage site segment and SCOP segment of this file are selected and mechanically molded into report form. Due-out data (other than direct delivery) will be obtained from this file.

b. The due-in file is used basically to categorize the nondirect delivery due-in data into "Due-in from Procurement" or "Due-in from Other."

c. The direct delivery due-in subsidiary file is used to obtain the direct delivery due-in/due-out position for the QSR effective with the 31 December 1977, 1st quarter QSR submission for FY 78.

d. The demand master file is used to compute the average monthly demand and the recurring and nonrecurring data required for preparation of the stratification reports.

→ e. The interchangeable and substitute (I&S) file is used to identify the relatable substitute items when assets are available for distribution or when needed.

19-8. PROCESS AND REPORT SUPPRESSION CARDS. a. Process control cards are used to obtain the organizational title of the reporting agency and cutoff date of the reports.

b. The DMF is further updated in the weekly DMF update based on processing of demand transactions from the basic cycle, manager directed changes, and the application of demand system controls and demand analysis program parameters. Additional updating of the DMF is also performed in the monthly stock record support process, job ALDMØ2. TM 38-L03-16 contains a general description of these DMF update processes and contains a detailed discussion of the complete demand analysis process, to include transaction processing, application of system and item controls, and the internal computations used in updating data on the DMF and generating applicable reports.

7-5. DMF INQUIRY. a. Three types of inquiries may be used to obtain information from the DMF.

(1) DIC ZBJ is stock number oriented, and is used to obtain a supply control study, PCN ALB-AØ9, or a unit data report, PCN ALD-Ø23. DIC ZBJ is input in the basic supply cycle and is processed in the next weekly DMF update.

(2) DIC ZBK is DODAAC oriented, and is used to obtain a unit PLL, PCN ALD-Ø35, an ASL, PCN ALD-Ø36, or a comparative PLL, PCN ALD-Ø34. It may also be used to obtain a complete stock record support package for a unit, or to obtain inventory count cards for a DSU/GSU. DIC ZBK is input in the basic supply cycle and is processed in the next monthly stock record support process.

(3) The demand analysis item data report (DAIDR), PCN ALD-Ø28, is a stock number oriented report which may be used to supplement the supply control study. This report is only available from a special DAIDR process, job ALDRØ9, using DIC ZBR.

b. Section IX, chapter 2, of TM 38-L03-16 contains the detailed procedures for obtaining the inquiries described above.

7-6. RETENTION CRITERIA. Monthly updating of the DMF will purge records under the following conditions:

→ a. New records:

- (1) When a DIC PLD has been processed for the unit DODAAC.
- (2) When no frequencies are recorded or no minimum or field RO is established. →
- (3) When a DIC PLD is entered and the initial PLL date is blank.
- (4) If the UTC is 1 or M and the PLL eligible flag is off.

be rejected. As a general rule, customers supported by the SCA/IMSA will be authorized to request all authorized items, and will not be restricted to any specific SCD codes. Special edits apply to medical items. These are described in chapter 2, section VIII, TM 38-L03-15.

2-12. PRE-EDIT AND BALANCE RUN PROCESSING. Demand transactions are processed through the pre-edit and balance run and if required, through the CMDF prior to being passed to the demand process from document history. This is done to insure that errors have been corrected and that basic catalog data have been verified prior to demand processing. Demand transactions which are rejected to the customer for any reason are not recorded in the demand master file. See TM 38-L03-20 for error explanation codes.

2-13. DEMAND HISTORY PROCESS. Demand history is recorded in the demand master file as an automatic result of routine processing of demand transactions. Specific elements of demand information are extracted from each transaction and are recorded in the designated unit or dummy subrecord under the appropriate stock number; when an interchangeable item is issued, the demand is recorded under the requested stock number; when a substitute item is issued, the demand is recorded under the preferred stock number. These elements are explicitly available in the fringe memorandum record, but may lose their individual identity when smoothed into an existing demand record. For example, both quantity and priority designator lose identity when added to (smoothed into) the demand rate and average priority designator fields of the DMF. The demand elements are:

- a. Quantity demanded.
- b. Date of the demand.
- c. Priority designator.
- d. Unit source of supply.
- e. Unit type code (UTC).
- f. Department of Defense activity address code for other than UTC 9.

2-14. TYPES OF EXTERNAL DEMAND TRANSACTIONS. The types of external demand transactions are listed below; they are described more fully in succeeding paragraphs.

- a. Issues and cancellations; see paragraph 2-15.

## **APPENDIX E**

### **SAMPLE OUTPUT REPORTS SHOWING DISCREPANCIES**

Appendix E provides copies of output reports which illustrate processing discrepancies. These sample reports were discussed at the SAILS SAG Meeting, April 17, 1978. A summary discussion is given in Exhibit 4, Minutes of SAG Meeting.

### EXAMPLE 1

#### INVALID "NEW" STOCK NUMBER ON DEMAND ANALYSIS ERROR AND EXCEPTION LISTING

This is an example of an invalid new stock number being reported on the exception report ALD-025. The correct new stock number on the file is 5365008986703, correctly shown in the item data report of the cross-reference record.

See Appendix A, pages A-29 to A-31, for program coding change.



PREPARED 78 FEB 16

## DEMAND ANALYSIS ERROR AND EXCEPTION LISTING

PCN ALD-025

CUTOFF 78045

RCR	ITEMS CODE	DIC	STOCK NUMBER	DCDAAC	REQ CODE	UJL-NUMBLR DATE	UI SEK	QUANTITY	DMD CD	PD	YGT CD	TYPE OF ERROR
2A	202	ZBJ	1560-004753931			8045						FRINGE MEMO IN DEMAND FILE
2A	202	ZBJ	1560-008612117			8045						FRINGE MEMO IN DEMAND FILE
2A	202	ZBJ	1560-009495464			8045						FRINGE MEMO IN DEMAND FILE
2A	201	ZBJ	1615-001136354			8045						STOCK NR CHANGED TO 6354 500116711
2A	202	ZBJ	2910-006207366			8045						STOCK NR CHANGED TO 9155 000624368
2A	201	ZBJ	2910-006207366			8045						STOCK NR CHANGED TO 9155 000620736
2A	202	ZBJ	2910-008586703			8045						STOCK NR CHANGED TO 6703 000904264
2A	201	ZBJ	2910-008986703			8045						STOCK NR CHANGED TO 6703 000898670
2A	202	ZBJ	3610-0003R0093--0			8045						NO RECORD IN DEMAND FILE
2A	201	ZBJ	3610-0003R0093--0			8045						NO RECORD IN DEMAND FILE
2A	201	ZBJ	4110-006188712			8045						FRINGE MEMO IN DEMAND FILE
2A	202	ZBJ	4110-006188712			8045						FRINGE MEMO IN DEMAND FILE
2A	201	ZBJ	5340-001249205			8045						STOCK NR CHANGED TO 9205 000127096
2A	202	ZBJ	5821-009716127			8045						FRINGE MEMO IN DEMAND FILE
2A	202	ZBJ	5990-002413758			8045						NO RECORD IN DEMAND FILE
2A	201	ZBJ	6115-009770786			8045						NO RECORD IN DEMAND FILE
2A	202	ZBJ	6350-003688212			8045						FRINGE MEMO IN DEMAND FILE
2A	201	ZBJ	6350-003688212			8045						FRINGE MEMO IN DEMAND FILE
2A	202	ZBJ	6505-01C208949			8045						NO RECORD IN DEMAND FILE
2A	202	ZBJ	6515-01C200728			8045						NO RECORD IN DEMAND FILE
2A	202	ZBJ	6515-01C208776			8045						NO RECORD IN DEMAND FILE
2A	202	ZBJ	6515-01C208856			8045						NO RECORD IN DEMAND FILE
			6515-01C201875			8045						NO RECORD IN DEMAND FILE
2A	201	ZBJ	6675-006415738			8045						NO RECORD IN DEMAND FILE

PAGE 00001

EXAMPLE 1

E-3

PREPARED 78 FEB 14

DEMAND ANALYSIS ITEM DATA REPORT  
(DAILY QA MASTER)

PCN ALD-028

CUTOFF 78041

REQ NR 028 SHEARINGEN 2A

2910008986703

STOCK NUMBER 2910-00-898-6703  
REF STOCK NR 5365-00-898-6703

RECORD ID  
DATE LAST ACTIVITY

X  
78030

IDENT NUMBER CODE  
REF IDENT NR CODE

A  
A

DATE LAST STUDY  
NBR PLL UNITS

7350  
0

EXAMPLE 1

END PAGE 00001

## EXAMPLE 2

### DSS NON-RECURRING DEMANDS

This example demonstrates that the Supply Control Study excludes non-recurring DSS demands from the non-recurring demand frequency but includes them in the non-recurring demand rate.

See Appendix A, pages A-32 to A-34, for further details.

PREPARED 78 APR 11 CYCLE DOLMC ABF DISPLAY/SUPPLY CONTROL STUDY PCN ALH-A09 CUTOFF 78101

DEMAND HISTORY DATA

STOCK NBR 4920 00 372 4593 AUTHORITY CODE: 78101  
UNIT OF ISSUE FA AUTH CODE SET BY MGR 78101  
NOMENCLATURE JESTER EXH ACQUISITION ADVISE CODE 78098  
UNIT PRICE \$10454.00 SPECIAL CONTROL ITEM CODE 00000  
%CSC CODE HSICH PHRASE CODE 78052  
TYPE ITEM CODE 0 PCT NONRECUR IN FUELCAST 0  
MAINTENANCE CODE (USER) 0 MAXIMUM DST 30  
ESSENTIALITY CODE L MAINTENANCE CODE (REPAIR) 0  
PLL ELIGIBLE / MGR SET YES/ NO RECOVERABILITY CODE 0

DEMAND AND REPAIR DATA

STG ---ANNUAL FREQUENCY--- T-IN REPAIR-CYCLE T-IN RATE 0.00 0.00 0.00 0.00  
RIC N-DSS DSS NON-R T-IN RATE 0.00 0.00 0.00 0.00  
MIN 0 0 0 0 0.00 0.00 0.00 0.00

INSTALLATION ITEM CONTROLS

STG NST AVG MSN SAF-CAT EDIT  
RIC DAYS PRI VAL PRG-MGR CODE  
MIN 0 0 0 0 0 0

TOTAL

RECOMMENDED LEVELS

MIN R/O SLIC SAFETY REORDER OLD NEW PCT  
R/O R/O R/O R/O R/O R/O CHANGE  
0 2 0 0 0 0 0 0

### EXAMPLE 3

#### "DEMAND QUALIFIED" ITEM WITH ZERO REQUISITIONING OBJECTIVE

In this example, a Supply Control Study was generated with a levels reason of "demand qualified", although the SLC is Z and RO is zero.

See Appendix A, Page A-16 for further details.

PREPARED 70 FEB 06 CYCLE 801MC

## ABF DISPLAY/SUPPLY CONTROL STUDY

PCN ALB-A09

**CUTOFF 78034**

### DEMAND HISTORY DATA

STOCK NBR	1615 00	733	8320	3	STUDY DATE	78034	LEVELS REASON	DEMAND QUALIFIED
UNIT OF ISSUE	EA			NO	SUSPENSE DATE	78034	STUDY REASON	MANAGER REQUEST
NONDECLATURE	BUSHING SE			D	LAST LEVELS	78030	SUPPLY CLASS DESIGNATOR	A
UNIT PRICE	\$36.05			D	LAST STUDY	78020	SAFETY LEVEL FLAG	OFF
MWCS CODE	M28A				LAST DEMAND	78003	MINIMUM RETENTION QTY	0
TYPE ITEM CODE	0			0	R/O LAST STUDY	0	RETENTION QUANTITY	17
MAINTENANCE CODE (USER)	0			90	LEVEL FREQUENCY	60	FURCAST ANNUAL DEMAND	\$596
MAINTENANCE CODE (KEPAIR)	M			N	NR PLL/AST UNITS	0	ISSUED LAST 12 MONTHS	\$596
ESSENTIALITY CODE				Z			TOTAL VALUE R/O	80
ALL ELIGIBLE / MGR SET	YES/NO							

## DEMAND AND REPAIR DATA

SIG	---ANNUAL FREQUENCY---			T-IN RATE	REPAIR-CYCLE RQMT TIME	REPAIR RATE	RESUPPLY RATE	DMD RATE FOR RU	---MONTHLY DEMAND RATE---			PCT
	N-DSS	DSS	NON-R						N-DSS	DSS	NON-R	
RIC												
WHJ	0	6	0	0.00	0.0	0.0	0.0	0.000	1.377	0.000	0	0.0

## INSTALLATION ITEM CONTROLS

STG	OST	AVG	MSN	SAF-CAT	EDIT
PIC	DAYS	PRI	VAL	PRG-MGR	CODE
WMJ	0	06	0	9	0
TOTAL					

#### EXAMPLE 4

##### OBSOLETE DEMAND RECORDS

This example shows that obsolete records of type D and 4 are not being deleted from the file. See Appendix A, page A-35 for further details.

PREPARED 18 FEB 14

DEMAND ANALYSIS ITEM DATA REPORT  
(DAILY DA MASTER)

PCN ALD-028

CUTOFF 78041

REQ NR 073 SWEARINGEN 2A

6135001201020

STOCK NUMBER	6135-00-120-1020	RECORD ID	H	NICP	B16	MCSC CODE	G22TJ
NOMENCLATURE	BATTERY, D	STOCKAGE LIST CODE	J	TYPE ITEM CODE	0	AVE QST-DSS	83.3
UNIT PRICE	\$3.22	UNIT OF ISSUE	PC	AUTHORITY CODE	4	MAX ORD SHIP TIME(ISO)	999
UNIT PACK QUANTITY	24	ESSENTIALITY	H	DX MANAGER		AVE QST (ISO)	45.7
TOTAL R/O	323	PRICE SIGNAL CODE	S	MAINTENANCE-REPAIR CODE	N	AVERAGE QST VARIANCE	20.0
R/O CONTROL QUANTITY	323	ACQ ADVICE CODE	D	SPEC CONTROL ITEM CODE	0	DATE OF FIRST DEMAND	76328
MINIMUM RETENTION QTY	0	SHELF LIFE CODE	R	MAINTENANCE-USE CODE	0	DATE OF LAST LEVELS	77329
EXPENDABILITY	X	PHRASE CODE		OPERATING LEVEL CODE	6	DATE LAST STUDY	77294
RECOVERABILITY CODE	Z	MANAGER CODE	B	SUPPLY CONTROL STUDY	00	SUPPLY CLASS DESIGNATOR	R
STOCK NUMBER ID	A	PCT. NON-R. DEMANDS	Q	MAX SCS FREQ CODE	0	NUMBER OF STG SITES	0
BITS	01000000 00000010 10111001			NUMBER OF UNITS	10		

UNIT DATA

UNIT ID	REQ CD	PLI	DT	AUTH QTY	MIN QTY	DEMAND RATE	DEMAND COUNTERS	REC QTY	DAYS	S O S	TYPE	UNIT BIT CODES
AX308L						.000	000000000000	NONE	3	14099	D	00000000 00010000
AX3063						.000	000000000000	NONE	3	14099	4	00000000 00000000
AX3210						1.054	0000000011000	NONE	3	14099	2	00000000 00000000
AX3221						.000	0000000000000	NONE	3	14099	4	00000000 00000000
WX3EJO						.182	1000000000000	NONE	3	14099	D	00000000 00010000
WX3JJA						.651	0010000000000	NONE	3	14099	D	00000000 00010000
WX3JJV	76333					706.154	1001002020001	NONE	3	14099	D	00000000 00010000
WX3JJM	77103					29.588	0000000000010	NONE	3	14099	D	00000000 00010000
WX3JMU						27.523	0000100000000	NONE	2	14099	1	00000000 00000000
WX3JMV						21.948	1000000001000	NONE	2	14099	1	00000000 00000000

STOCK NUMBER 6135-00-120-1020

STOCK NUMBER	RECORD-ID	K	NUMBER OF UNITS	10	NUMBER OF STG SITES
WX3JMQ	76333	.000	0000000000000	NONE	3 14099 4 00000000 00000000
WX3JMA	76333	.000	0000000000000	NONE	3 14099 4 00000000 00000000
WX3JMB	76333	.000	0000000000000	NONE	3 14099 4 00000000 00000000
WX3JMN	76333	.000	0000000000000	NONE	3 14099 4 00000000 00000000
WX3JNO	76333	.481	0000000010000	NONE	3 14099 4 00000000 00000000
WX3JN4	76333	.451	0111000100000	NONE	3 14099 2 00000000 00000000
WX3JN9	76333	.382	0000001000000	NONE	3 14099 4 00000000 00000000
WX3JPL	76333	.444	0001010000001	NONE	3 14099 2 00000000 00000000
WX3JPU	76333	.080	0000000010000	NONE	3 14099 2 00000000 00000000
WX3JPM	76333	4.363	1000000000000	NONE	3 14099 2 00000000 00000000

STOCK NUMBER 6135-00-120-1020

STOCK NUMBER	RECORD-ID	K	NUMBER OF UNITS	10	NUMBER OF STG SITES
WX3JPS	77194	.583	0000100001000	NONE	3 14099 2 00000000 00000000
WX3JQC	77194	.187	0001000010010	NONE	3 14099 4 00000000 00000000
WX3JDE	77194	1.019	1000100300000	NONE	2 14099 1 00000000 10000000
WX3JQH	76333	18.841	2000011000001	NONE	3 14099 4 00000000 00000000
WX3JOP	76333	.000	0000000000000	NONE	3 14099 4 00000000 00000000



## EXAMPLE 5

### UNIT OF ISSUE AND UNIT PRICE DISCREPANCIES

This example illustrates a unit of issue and unit price discrepancy. The ABF display lists this item as unit of issue "SE", unit price \$7.20, while the demand history segment shows a unit of issue "EA" and unit price \$28.50.

PREPARED 78 FEB 16 CYCLE B03MC ABF DISPLAY/SUPPLY CONTROL STUDY PCN ALB-A09. CUTOFF 78045

INTERCHANGEABLE AND SUBSTITUTE DATA  
MGR REQUESTED NUMBER PH SCC IPSC NO SUBS RELATED NUMBERS ID UI CONFAC PH SCC IPSC CDCC

SE 5120.00.148 9488 NO INT/SUB DATA FOR THIS RECORD

ABF CATALOG HEADER SEGMENT FOR REQUESTED NUMBER  
NATL STOCK/PART NO ID CUI CONFAC MSC SOS AA PS UNIT PRICE NUMENCLATURE

5120.00.148 9488 A SE 00001 E22F0 G50 G E 7.20 WRENCH SET

MGR PH SCI LCC PSP SH QUP UPQTY UPA SCD FC KOK LS RA ICC ES EXP REC MU/R TRC RCYC MGR DENIL SRC RICC LIN AECC AERQ ARC SXRC SYEFF

SE U 1 1 5 G X N N 00 00 A 00000

ISC ECC ITC II CONTROL FLAG MATRIX SCH EOE SIC SICEFF KCC LEVDAT XROX DLCHG SF SR

0 0000000000000000 2E 00000 0 00000 00 77077 2 0

INPUT/REFERRAL DOCUMENT							
0	1	2	3	4	5	6	7
1	0	0	0	0	0	0	0
REASON FOR REFERRAL							
EPC RCC							

DEMAND ANALYSIS DATA

STORAGE SITE/CONDITION/OWNERSHIP/PURPOSE/PROJECT DATA FOR REQUESTED NUMBER  
SSRIC SLC ED SEA DLA IF AND RATE SCS QTY ROF HALF SFCX

WMJ 2 0 0 77102 0 0 00

OP APRO CN TS 80M QTY DI QTY DO QTY RO/LV QTY ROP QTY SL QTY RET QTY FIN LEVEL UNFIN LEV DLA INV DATE REQUIREMENT

A A 0 0 0 0 0 0 0 0 9 0 0 78045 00000 0

PREPARED 78 FEB 16 CYCLE B03MC ABF DISPLAY/SUPPLY CONTROL STUDY PCN ALB-A09 CUTOFF 78045

DEMAND HISTORY DATA

STOCK NBR	5120 00 148 94PP	AUTHORITY CODE	3	STUDY DATE	78045	LEVELS REASON	MANAGER REQUEST
UNIT OF ISSUE	EA	AUTH CODE SET BY MGR	NO	SUSPENSE DATE	78045	STUDY REASON	MANAGER REQUEST
NOMENCLATURE	WRENCH SET	ACQUISITION ADVISE CODE	G	LAST LEVELS	78006	SUPPLY CLASS DESIGNATOR	G
UNIT PRICE	\$24.50	SPECIAL CONTROL ITEM CODE		LAST STUDY	00000	SAFETY LEVEL FLAG	OFF
MSC CODE	L2200	PHRASE CODE	0	LAST DEMAND	77355	MINIMUM RETENTION QTY	0
TYPE ITEM CODE	0	PCT NONRECUR IN FORECAST	0	R/U LAST STUDY	0	RETENTION QUANTITY	4
MAINTENANCE CODE (USER)	N	MAXIMUM QST	90	LEVEL FREQUENCY	60	FORECAST ANNUAL DEMAND	898
ESSENTIALITY CODE	B	MAINTENANCE CODE (REPAIR)	N	NR PLL/ASL UNITS	0	ISSUED LAST 12 MONTHS	823
PLL ELIGIBLE / MGR SET	YES/ NO	RECOVERABILITY CODE	Z			TOTAL VALUE R/O	80

DEMAND AND REPAIR DATA

STG	---ANNUAL FREQUENCY---	T-IN	REPAIR-CYCLE	REPAIR	RESUPPLY	DMD RATE	---	PCT	PCT
RIC	N-DSS CS: NON-R	T-IN	RATE	TIME	RATE	FOR RO	NON-R	TRND	VAR
WHJ	0 1 1 0 0.00 0.00 0.00 0.00 0.00	0	0.00	0.00	0.00	0.000	0.130	0.183	0 0 0 0.0

INSTALLATION ITEM CONTROLS

STG	OST	AVG	MSN	SAF-CAT	EDIT
RIC	DAYS	PRI	VAL	PRG-MGR	CODE
WHJ	0 13 0 0 0 0				
TOTAL					

RECOMMENDED LEVELS

MIN	SAFETY REORDER	OLD	NEW	PCT
R/O	SLC LEVEL	POINT	R/O	R/O CHANGE
0	2 0 0 0 0 0			
2			0	0 0 0

PREPARED 08 FEB 16 CYCLE B03MC ABF DISPLAY/SUPPLY CONTROL STUDY PCN AL8-A09 CUTOFF 78045

INTERCHANGEABLE AND SUBSTITUTE DATA

REQ REQUESTED NUMBER PM SCC IPSC NO SUBS RELATED NUMBERS 10 UI CONFAC PM SCC IPSC CDCC

AE 7510 21 021 9597 NO INT/SUB DATA FOR THIS RECORD

ABF CATALOG HEADER SEGMENT FOR REQUESTED NUMBER

NATL STOCK/PART NO 10 CUI QUI CONFAC MCSC SOS AA PS UNIT PRICE NOMENCLATURE

7510 01 021 2597 A BX 00001 E2200 G50 L E 1.00 NAPTACK

NBR PM SC1 SCC PSP SH QDP UPQTY UPA SCD FC KOR LS KA ICC ES EXP REC MU/R TRC RCYC MOR DEMIL SRC RICC LIM AECC AERQ ARC SMRC SAEFE

AE 0 3 U 1 5 G 5 L X 2 0 N 00 00 A 0 00000

ISC SCC JIC JI CONTROL FLAG MATRIX SCH EDE SIC SICEFF RCC LEVDAT BROX OLCCHG SF SR

0 0000000010000000 2E 00000 0 00000 00 78032 Z 0

INPUT/REFERRAL DOCUMENT

0 2 3 4 5 6 7 8 REASON FOR REFERRAL  
1 0 0 0 0 0 0 0 EPC RCC

DEMAND ANALYSIS DATA

STORAGE SIZE CONDITION/OWNERSHIP/PURPOSE/PROJECT DATA FOR REQUESTED NUMBER  
SSRIC SLQ ED SEA DLA IF AND RATE SCS QTY ROP WRLF SPCS

NMJ 2 0 0 78030 0 0 00

OP APR0 CM 25 BOM QTY DI QTY DO QTY RO/LV QTY ROP QTY SL QTY RET QTY FIN LEVEL UNFIN LEV DLA INV DATE REQUIREMENT  
A 1 0 0 0 0 0 0 9 0 0 78045 00000 0

PREPARED 78 FEB 16 CYCLE 803MC ABF DISPLAY/SUPPLY CONTROL STUDY PCN ALB-A09 CUTOFF 78045

DEMAND HISTORY DATA

STOCK NBR 7510 01 021 9597  
UNIT OF ISSUE  
NOMENCLATURE  
UNIT PRICE 81.00  
MCS CODE E2200  
TYPE ITEM CODE  
MAINTENANCE CODE (USER)  
ESSENTIALITY CODE  
PLL ELIGIBLE / MGR SET YES/ NO

AUTHORITY CODE  
AUTH CODE SET BY MGR  
ACQUISITION ADVISE CODE  
SPECIAL CONTROL ITEM CODE  
PHRASE CODE  
PCT NONRECUR IN FURECAST  
MAXIMUM DST  
MAINTENANCE CODE (REPAIR)  
RECOVERABILITY CODE

4 NO  
L  
0  
0  
0  
90  
N  
Z

STUDY DATE  
SUSPENSE DATE  
LAST LEVELS  
LAST STUDY  
LAST DEMAND  
R/D LAST STUDY  
LEVEL FREQUENCY  
NR PLL/ASL UNITS

78045  
78045  
78030  
00000  
77166  
0  
90  
0

LEVELS REASON  
STUDY REASON  
SUPPLY CLASS DESIGNATOR  
SAFETY LEVEL FLAG  
MINIMUM RETENTION QTY  
RETENTION QUANTITY  
FORECAST ANNUAL DEMAND  
ISSUED LAST 12 MONTHS  
TOTAL VALUE R/O

MANAGER REQUEST  
MANAGER REQUEST  
DEF  
0  
2  
82  
81  
80

DEMAND AND REPAIR DATA

SIG ---ANNUAL FREQUENCY--- T-IN REPAIR-CYCLE REPAIR RESUPPLY DMD RATE  
RIC N-DSS DSS NON-R T-IN RATE RMT TIME RATE FOR RD

WHJ 0 2 0 0 0.00 0.0 0 0.0 0.0 0.000

INSTALLATION ITEM CONTROLS

SIG DST AVG MSN SAF-CAT EDIT  
RIC DAYS PRI VAL PRG-MGR CODE

WHJ 0 12 0 9 0 0

TOTAL

RECOMMENDED LEVELS

MIN R/O SLG LEVEL POINT MIN R/O NEW R/O CHANGE

0 2 0 0 0 0 0 0

2 0 0 0 0 0 0 0

(ALSO "HD" ON DOC HIST)

#### EXAMPLE 6

##### RO FOR DSS MISSION ESSENTIAL

This example shows that an RO has been computed for an item which has no non-DSS demands but has been designated as Mission Essential to a DSS unit.

PREPARED 78 FEB 06 CYCLE 801MC

ABF DISPLAY/SUPPLY CONTROL STUDY

PCN ALB-A09

CUTOFF 78034

# DEMAND HISTORY DATA

STOCK NBR	1650 00 995 2716	AUTHORITY CODE	4	STUDY DATE	78034	LEVELS REASON	78034	MANAGER REQUEST
UNIT OF ISSUE	EA	AUTH CODE SET BY	NO	SUSPENSE DATE	78034	STUDY REASON	78034	MANAGER REQUEST
INVENTORY	SEAL, CHAM	ACQUISITION ADVISE CODE	0	LAST LEVELS	78020	SUPPLY CLASS DESIGNATOR	78020	A
UNIT PRICE	\$1.03	SPECIAL CONTROL ITEM CODE	0	LAST STUDY	78020	SAFETY LEVEL FLAG	78020	OFF
MCSC CODE	H22DA	PHRASE CODE		LAST DEMAND	78003	MINIMUM RETENTION QTY	78003	0
TYPE ITEM CODE	0	PCT NONRECUR IN FORECAST	0	R/O LAST STUDY	3	RETENTION QUANTITY	3	8
MAINTENANCE CODE (USER)	0	MAXIMUM QST	90	LEVEL FREQUENCY	90	FORECAST ANNUAL DEMAND	90	58
ESSENTIALITY CODE	M	MAINTENANCE CODE (REPAIR)	N	MR PLL/ASL UNITS	0	ISSUED LAST 12 MONTHS	0	58
PLL ELIGIBLE / MGR SET	YES/ NO	RECOVERABILITY CODE	2			TOTAL VALUE R/O		53

## DEMAND AND REPAIR DATA

STG	---ANNUAL FREQUENCY---	T-IN	REPAIR-CYCLE	REPAIR	RESUPPLY	DMD RATE	---MONTHLY DEMAND RATE---	PCT	PCT
RIC	N-DSS	DSS	NON-R	T-IN	RATE	FOR RO	N-DSS	NON-R	TRND
WMJ	0	2	0	0	0.00	0.0	0.000	0.680	0
									0
									0
									0.0

## INSTALLATION ITEM CONTROLS

STG	OST	AVG	MSN	SAF-CAT	EDIT
RIC	DAYS	PRI	VAL	PRG-MGR	CODE
WMJ	0	08	0	9	0

TOTAL

## RECOMMENDED LEVELS

MIN	SAFETY REORDER	OLD	NEW	PCT
R/O	SLC	LEVEL	POINT	R/O
0	M	0	1	3
0	M	3	3	0

PREPARED 78 FEB 07

PCN ALD-028

DEMAND ANALYSIS ITEM DATA REPORT  
(DAILY DA MASTER)

CUTOFF 78024

REQ NR 011 SWEARINGEN 2A

1650009952716

STOCK NUMBER 1650-00-995-2716  
NOMENCLATURE SEAL, CHANN  
UNIT PRICE \$1.03  
UNIT PACK QUANTITY 1  
TOTAL R/O 3  
R/C CONTROL QUANTITY 3  
MINIMUM RETENTION QTY 0  
EXPENDABILITY X  
RECOVERABILITY CODE 2  
STOCK NUMBER ID A  
BITS 00000000 00000000 10111000

RECORD ID H  
STORAGE LIST CODE M  
UNIT OF ISSUE EA  
ESSENTIALITY H  
PRICE SIGNAL CODE S  
ACQ ADVICE CODE D  
SHELF LIFE CODE 0  
PHRASE CODE 2  
MANAGER CODE 0  
PCT NON-R DEMANDS 0

NLCP  
TYPE ITEM CODE  
AUTHORITY CODE  
UX MANAGER  
MAINTENANCE-REPAIR CODE N  
SPEC CONTROL ITEM CODE 0  
MAINTENANCE-USE CODE 0  
OPERATING LEVEL CODE 1000  
SUPPLY CONTROL STUDY 0  
MAX SCS FREQ CODE 1  
NUMBER OF UNITS 1

M228A  
75.0  
AVE OST-DSS  
MAX ORD SHIP TIME(1SD) 999  
AVE OST (1SD) 75.6  
AVERAGE OST VARIANCE 9.3  
DATE OF FIRST DEMAND 77307  
DATE OF LAST LEVELS 78034  
DATE LAST STUDY 78020  
SUPPLY CLASS DESIGNATOR A  
NUMBER OF STG SITES 1

UNIT DATA

UNIT ID REQ CO PLL DT AUTH QTY  
WX3JQQ 77316 11  
MIN QTY DEMAND RATE DEMAND COUNTERS REC QTY DAYS S O S TYPE UNIT BIT CODES  
11 .762 0110000000000000 NONE 3 14099 E 10000000 10010000

STORAGE SITE DATA

VARIANCE S/L UX RUP CURRENT QTY NR DMDS DMDS/SL CR FLR LAST DMD FIX EDIT  
DRAQ INST/GSU/OSU DMDS 1 YR SUM PRI SL FAIL SC-RV ASL DT BIT CODES  
14099 M 3 1.497 1 2 .24 .00 78003 0 00000000 00010000  
NORMAL RT .762  
TRENDED RT .129

↑ MISSION ESSENTIAL  
↑ FLAG SET

↑ FIXED RO FLAG  
NOT SET



## EXAMPLE 7

### ERRONEOUS DEMAND REVERSAL ON PASSING ACTION RECEIPT CONFIRMATION

In this example the receipt of a substitute item on a passing action has resulted in the erroneous generation of a demand cancellation. (The cancellation was rejected because of an error in assigning the demand code. However, if the demand code had been correctly assigned, the demand would have been erroneously reversed.)

The demand reversal for a quantity of 2 (page E-19) is generated from the 'CA' status transaction, ITC 025, ITSC 005, quantity 2 (page E-21). A demand reversal should be generated when a cancellation status is processed but, in this case, the CA cancellation status was invalid. (Note that a DWA receipt confirmation for the complete requisition quantity was processed in the same cycle.)

The invalid cancellation transaction results from a minor discrepancy in Program P69ALB. This discrepancy can cause an invalid cancellation status to be generated under certain limited conditions:

- (1) The stock number of the receipt confirmation differs from the Document History stock number, and
- (2) The stock numbers are not on the I&S file, and
- (3) The MEC of the receipt confirmation is '2', and
- (4) The receipt confirmation unit of issue matches the Document History unit of issue.

See Appendix A, page A-55 for further details and suggested coding changes.

PREPARED 78 JAN 28

DEMAND ANALYSIS ERROR AND EXCEPTION LISTING

PCN ALD-025

CUTOFF 78027

MR TRANS DIC STOCK NUMBER  
CODE

DODAAC REQ DOC-NUMBER UI  
CODE DATE SER

QUANTITY DMD PD MGT TYPE OF ERROR  
CO CO

24 330 DHA 1005-005082589

WXRXS 7335 2004 EA

2 R 13 C NO RECORD IN DEMAND FILE

EXAMPLE 7

E-19

END PAGE 00001



**EXAMPLE 7**  
**E-21**

## EXAMPLE 8

### PARTIAL CANCELLATION WITH MANAGEMENT CODE " C "

This example shows that a partial cancellation for a quantity of 2 caused a demand reversal to be generated with management code 'C', full cancellation. The requisition quantity is 50 (page E-24). This reversal was rejected because the date exceeds the demand period maintained on the Demand Master. If processed, however, the error can cause the reduction of the demand frequency for a partial quantity.

The input 'CA' cancellation ITC 008, ITSC 001 (page E-26) provides the requirement for generating the demand reversal (page E-23). However, the coding which formats the reversal for this type of transaction (input status) uses management code 'C', regardless of the cancellation quantity. (Program P50ALB, paragraph 3710.)

See Appendix A, page A-38 through A-51 for further details.

PREPARED 78 FEB 04

DEMAND ANALYSIS ERROR AND EXCEPTION LISTING

PCN ALD-025

CUTOFF 78034

MGR	TRNS CODE	DIC	STOCK NUMBER	DDOAAAC	REQ CODE	DOC- NUMBER DATE	UI SER	QUANTITY	DMD CD	PD	MGT CD	TYPE OF ERROR	
SF	330	DMA	8415-002667750	WX3QPH		8006	0208	EA	16	R	03	C	NO RECORD IN DEMAND FILE
SF	330	DMA	8465-001614068	WX3H8L		7003	0609	PP	2	R	13	C	NO RECORD IN DEMAND FILE
SF	287	89A	8465-009356673			7292		EA					NO RECORD IN DEMAND FILE

EXAMPLE 8

E-23

END PAGE 00331

PREPARED 78 FEB 14	CYCLE 80913	WATCH INQUIRY LIST	PCN ALB-007	CUTOFF 78044
MGR ZA				
*DCMSGHT	DDN WX3WBL 70030609	SN/PR 8465001014063	FL PG ALSU F2200 PU 13 RDD 77032 ASSLT 0 APC LKAA FY	U/I PR UP 83.61
	PC NSH SAC/FS/LIN WX3JJV DC	RIC WHJ ACT 0 JLA 78041 PSC 5 SEG 23 USS 22 SHC 13 URUUI 0 PDI 0 RPC		
	O/O QTY 48 D/I QTY	48 CR-QTY	0 DUPEJN 0 NIGP-PI-TWO S9T MGR 5F MRC	DEMI 0 CMS T MS 0 TDD 1 CFC
	ORIG-DI-QTY	50 RICC 3 SLC MC	EXPN N ESL A SLC 2	
*DCMSGHT	DDN WX3WBL 70030609	DIC AF3 ITC 023 ITSC 002 EPC 025 CYC 07049 JTY-1	50 SUF/DMD A ADV/STATUS BB RI-ONE S9T	
	RI-TWO S9T DATE 1 40404 DATE 2 77048 JTY 2	0 TRANS-DATE 0000 SLC 0 SC K MC	CC OP-FR APRO	OP-TO
	MGR/ENTR DISP	REPLY-IND		
*DCMSGHT	DDN WX3WBL 70030609	DIC AF3 ITC 028 ITSC 002 EPC 025 CYC 07056 JTY-1	50 SUF/DMD ADV/STATUS BB RI-ONE S9T	
	RI-TWO S9T DATE 1 40404 DATE 2 77064 JTY 2	0 TRANS-DATE 0000 SLC 0 SC K MC	CC OP-FR APRO	OP-TO
	MGR/ENTR DISP	REPLY-IND		
*DCMSGHT	DDN WX3WBL 70030609	DIC AF3 ITC 028 ITSC 002 EPC 025 CYC 07147 JTY-1	50 SUF/DMD ADV/STATUS BA RI-ONE S9T	
	RI-TWO S9T DATE 1 40404 DATE 2 77096 JTY 2	0 TRANS-DATE 0000 SLC 0 SC K MC	CC OP-FR APRO	OP-TO
	MGR/ENTR DISP	REPLY-IND		
*DCMSGHT	DDN WX3WBL 70030609	DIC AF3 ITC 028 ITSC 002 EPC 025 CYC 07224 JTY-1	50 SUF/DMD ADV/STATUS BA RI-ONE S9T	
	RI-TWO S9T DATE 1 40404 DATE 2 77096 JTY 2	0 TRANS-DATE 0000 SLC 0 SC K MC	CC UP-FR APRO	OP-TO
	MGR/ENTR DISP	REPLY-IND		
*DCMSGHT	DDN WX3WBL 70030609	DIC AE1 ITC 025 ITSC 005 EPC 025 CYC 77020 QTY-1	50 SUF/DMD ADV/STATUS BB RI-ONE MHB	
	RI-TWO DATE 1 77020 DATE 2 00000 QTY 2	0 TRANS-DATE 00000 SLC 2 SC K MC	CC OP-FR APRO	OP-TO
	MGR/ENTR DISP	REPLY-IND		
*DCMSGHT	DDN WX3WBL 70030609	DIC AOA ITC 022 ITSC 001 EPC 073 CYC 77020 QTY-1	50 SUF/DMD R ADV/STATUS 2L RI-ONE MHB	
	RI-TWO DATE 1 77020 DATE 2 00000 QTY 2	0 TRANS-DATE 00000 SLC 2 SC K MC	CC OP-FR APRO	OP-TO
	MGR/ENTR DISP	REPLY-IND		
*DCMSGHT	DDN WX3WBL 70030609	DIC OFU ITC 006 ITSC 004 EPC 000 CYC 77020 JTY-1	50 SUF/DMD ADV/STATUS 2L RI-ONE S9T	
	RI-TWO DATE 1 77020 DATE 2 00000 QTY 2	0 TRANS-DATE 00000 SLC 2 SC K MC	D CC A OP-FR A APRO	OP-TO 0
	MGR/ENTR DISP	REPLY-IND		

PREPARED 78 FEB 14 CYCLE 80913

MGR 2A

DATE INQUIRY LIST

PCN ALD-007

CUTOFF 78044

\*DCMSGMT DON WX3MHL70030609 DIC A01 ITC 022 ITSC 005 EPC 025 CYC 77020 QTY-1 50 SUF/DMD R ADV/STATUS 2L RI-ONE S9T

RI-TWO DATE 1 77020 DATE 2 00000 QTY 2 0 TRANS-DATE 00000 SLC 2 SC K MC CC OP-FR APRO OP-TO

MGR/ENTR DISP REPLY-IND

\*DCMSGMT DON WX3MHL70030609 DIC DGA ITC 020 ITSC 002 EPC 000 CYC 77020 QTY-1 50 SUF/DMD ADV/STATUS 2L RI-ONE MHB

RI-TWO DATE 1 40404 DATE 2 00000 QTY 2 0 TRANS-DATE 00000 SLC 2 SC K MC D CC A OP-FR A APRO OP-TO 1

MGR/ENTR DISP REPLY-IND

\*DCMSGMT DON WX3MHL70030609 DIC AE3 ITC 007 ITSC 001 EPC 005 CYC 77035 QTY-1 50 SUF/DMD A ADV/STATUS BB RI-ONE S9T

RI-TWO S9T DATE 1 000 4 DATE 2 77048 QTY 2 0 TRANS-DATE 77034 SLC 2 SC K MC CC A OP-FR A APRO OP-TO

MGR/ENTR DISP REPLY-IND

\*DCMSGMT DON WX3MHL70030609 DIC AE3 ITC 007 ITSC 001 EPC 005 CYC 77055 QTY-1 50 SUF/DMD ADV/STATUS BB RI-ONE S9T

RI-TWO S9T DATE 1 000 4 DATE 2 77064 QTY 2 0 TRANS-DATE 77034 SLC 2 SC K MC CC A OP-FR A APRO OP-TC

MGR/ENTR DISP REPLY-IND

\*DCMSGMT DON WX3MHL70030609 DIC AE3 ITC 007 ITSC 005 EPC 000 CYC 77083 QTY-1 48 SUF/DMD B ADV/STATUS BJ RI-ONE S9T

RI-TWO S9T DATE 1 000 4 DATE 2 77083 QTY 2 0 TRANS-DATE 77082 SLC 2 SC K MC CC A UP-FR A APRO OP-TO

MGR/ENTR DISP REPLY-IND

\*DCMSGMT DON WX3MHL70030609 DIC AS3 ITC 009 ITSC 002 EPC 000 CYC 77091 QTY-1 48 SUF/DMD B ADV/STATUS RI-ONE S9T

RI-TWO S9T DATE 1 77085 DATE 2 77089 QTY 2 0 TRANS-DATE 1013 SLC 2 SC MC I CC A OP-FR A APRO OP-TO

MGR/ENTR DISP REPLY-IND 3

\*DCMSGMT DON WX3MHL70030609 DIC AS1 ITC 025 ITSC 008 EPC 025 CYC 77091 QTY-1 48 SUF/DMD ADV/STATUS RI-ONE S9T

RI-TWO S9T DATE 1 77085 DATE 2 77089 QTY 2 0 TRANS-DATE 0000 SLC 2 SC MC I CC A OP-FR A APRO OP-TO

MGR/ENTR DISP REPLY-IND

\*DCMSGMT DON WX3MHL70030609 DIC AE3 ITC 007 ITSC 001 EPC 000 CYC 77091 QTY-1 48 SUF/DMD ADV/STATUS BA RI-ONE S9T

RI-TWO S9T DATE 1 000 4 DATE 2 77096 QTY 2 0 TRANS-DATE 77082 SLC 2 SC K MC CC A OP-FR A APRO OP-TO

MGR/ENTR DISP REPLY-IND

\*DCMSGMT DON WX3MHL70030609 DIC BDD ITC 009 ITSC 005 EPC 025 CYC 77117 QTY-1 40 SUF/DMD B ADV/STATUS RI-ONE XE1

RI-TWO DATE 1 CC00C DATE 2 77113 QTY 2 0 TRANS-DATE 2113 SLC SC 0 MC CC OP-FR APRO OP-TO

MGR/ENTR DISP REPLY-IND

EXAMPLE 8

E-25



PREPARED 78 FEB 14 CYCLE 80913

BATCH INQUIRY LIST

PCN ALB-007

CUTOFF 78044

MGR 2A

\*DCHSGMT DON WX3WBL70030609 DIC C33 ITC 026 ITSC 000 EPC 000 CYC 77274 QTY-1 50 SUF/DMD D ADV/STATUS BA RI-ONE S9T  
RI-TWO DATE 1 00000 DATE 2 00000 QTY 2 50 TRANS-DATE 77274 SLC SC \* MC F CC 2 OP-FR 2 APRO OP-TO 0  
MGR/ENTR DISP REPLY-IND

\*DCHSGMT DON WX3WBL70030609 DIC AEL ITC 025 ITSC 000 EPC 025 CYC 77274 QTY-1 50 SUF/DMD D ADV/STATUS B7 RI-ONE S9T  
RI-TWO DATE 1 00000 DATE 2 00000 QTY 2 50 TRANS-DATE 77274 SLC SC K MC CC A OP-FR A APRO OP-TO 0  
MGR/ENTR DISP REPLY-IND

\*DCHSGMT DON WX3WBL70030609 DIC C33 ITC 020 ITSC 004 EPL 000 CYC 77274 QTY-1 50 SUF/DMD D ADV/STATUS B7 RI-ONE S9T  
RI-TWO DATE 1 00000 DATE 2 00000 QTY 2 50 TRANS-DATE 77274 SLC SC MC F CC 2 OP-FR 2 APRO OP-TO 0  
MGR/ENTR DISP REPLY-IND

\*DCHSGMT DON WX3WBL70030609 DIC AF3 ITC 023 ITSC 002 EPL 025 CYC 77300 QTY-1 50 SUF/DMD ADV/STATUS BA RI-ONE S9T  
RI-TWO S9T DATE 1 40404 DATE 2 77096 QTY 2 0 TRANS-DATE 77096 SLC 0 SC K MC CC OP-FR APRO OP-TO 0  
MGR/ENTR DISP REPLY-IND

\*DCHSGMT DON WX3WBL70030609 DIC AF3 ITC 028 ITSC 002 EPC 025 CYC 78013 QTY-1 2 SUF/DMD ADV/STATUS 2L RI-ONE S9T  
RI-TWO DATE 1 77020 DATE 2 00000 QTY 2 0 TRANS-DATE 78013 SLC 2 SC K MC D CC A OP-FR A APRO OP-TO 0  
MGR/ENTR DISP REPLY-IND

\*DCHSGMT DON WX3WBL70030609 DIC BH1 ITC 025 ITSC 016 EPC 025 CYC 78020 QTY-1 48 SUF/DMD B ADV/STATUS RI-ONE WHB  
RI-TWO S9T DATE 1 77025 DATE 2 77069 QTY 2 0 TRANS-DATE 78020 SLC 2 SC MC I CC A OP-FR A APRO OP-TO 0  
MGR/ENTR DISP REPLY-IND

\*DCHSGMT DON WX3WBL70030609 DIC AE3 ITC 003 ITSC 001 EPC 000 CYC 78032 QTY-1 2 SUF/DMD ADV/STATUS CA RI-ONE S9T  
RI-TWO S9T DATE 1 00004 DATE 2 78032 QTY 2 0 TRANS-DATE 78032 SLC 2 SC MC CC A OP-FR A APRO OP-TO 0  
MGR/ENTR DISP REPLY-IND

\*DCHSGMT DON WX3WBL70030609 DIC AF3 ITC 023 ITSC 002 EPC 025 CYC 78041 QTY-1 48 SUF/DMD ADV/STATUS BA RI-ONE S9T  
RI-TWO S9T DATE 1 40404 DATE 2 77096 QTY 2 0 TRANS-DATE 77096 SLC 0 SC K MC CC OP-FR APRO OP-TO 0  
MGR/ENTR DISP REPLY-IND

\*SPCSGMT DON WX3WBL70030609 DIC XX ITC 000 PREV-CHG-IND 0000 FLD-CMT 2  
FLD-1 IND 2 FLD-2 IND 2 FLD-3 IND 3 FLD-4 IND 4 FLD-5 IND 5

FLD-1 X3WBL704604178X FLD-2 X3WBL704604170X FLD-3

EXAMPLE 8

E-26

## EXAMPLE 9

### NON-RECURRING DEMAND CANCELLED AS RECURRING

This example shows full cancellation of a non-recurring demand (page E-29) erroneously formatted on the reversal as recurring (page E-28). The demand reversal transaction was rejected, so the non-recurring demand erroneously remains on the file. If there had been a matching recurring demand on the file, the recurring demand would have been erroneously cancelled.

While there is coding in Program P50ALB to find the original demand code when formatting demand reversals (program paragraph 3940-AO-CK), the coding is not accessed in all cases where a demand reversal is formatted. This reversal (page E-28) was formatted from an AE status 'CN', ITC 025, ITSC 005 (page E-29). The coding which formats the reversal for this type of transaction (output status), does not set the demand code (see program P50ALB, paragraph 3835).

The output "demand code", when not set, is carried forward from the input transaction (suffix code) and is later set to 'R' (default value) in program P02ALD.

See Appendix A, Page A-38 for further details.

PREPARED TO FEB 11

DEMAND ANALYSIS ERROR AND EXCEPTION LISTING

PCN ALD-025

CUTOFF 78041

MGR	TRNS	DIC	STOCK NUMBER	DODAAC	REQ	DIC-NUMBER	UI	QUANTITY	DMD	PD	MGT	TYPE OF ERROR
	CODE				CODE	DATE	SFR		CD		CD	

2H	330	DMA	1680-09731063	WXRXR		0030	0005	EA	2	R	10	C	NO RECORD IN DEMAND FILE
----	-----	-----	---------------	-------	--	------	------	----	---	---	----	---	--------------------------

PREPARED 78 FEB 16	CYCLE 81115	BATCH INQUIRY LIST	PCN ALJ-007	CUTOFF 78046
MGR 2A				
•DCHBASE	DOM WX3RXP80380005 SN/PN 1680009731J63	FC #2 MCSC H21CB PD 10 RDD 78067 ASSET 0 APC	FY U/I EA UP	\$340.00
	PC NSH SAC/FS/LIN WX3JSA DC	AI RIC M-LJ AUT C ULA 78040 PSC 5 SEG 3 CSS 0 URDOI 0 POI 0 RPC		
	D/O QTY 0 D/I QTY 0 CP-QTY 0	DUPRON 0 NICP-FI-TWO	MGR 2H MRC	DEMI 0 CMS V MS V TDO CFC 82
	ORIG-DI-QTY 0	RICC 2 SIC MC EXPN N ESC A SLC 2		
•DCHSGMT	DOM WX3RXP80380005 DIC AOA ITC 022 ITSC 001 EPC 000 CYC 78040 QTY-1	2 SUF/DMD N ADV/STATUS 2L RI-ONE WHB		
	RI-TWO DATE 1 78040 DATE 2 00000 QTY 2	0 TRANS-DATE 00000 SLC 2 SC K MC	CC OP-FR APRO	OP-TD
	MGR/ENTR DISP	REPLY-IND		
•DCHSGMT	DOM WX3RXP80380005 DIC AEL ITC 025 ITSC 005 EPC 025 CYC 78040 QTY-1	2 SUF/DMD ADV/STATUS CN RI-ONE WHB		
	RI-TWO DATE 1 78040 DATE 2 00000 QTY 2	0 TRANS-DATE 00000 SLC 2 SC K MC	CC OP-FR APRO	OP-TD
	MGR/ENTR DISP	REPLY-IND		
•DCHSGMT	DOM WX3RXP80380005 DIC AOA ITC 022 ITSC 001 EPC 070 CYC 78040 QTY-1	2 SUF/DMD ADV/STATUS 2L RI-ONE WHB		
	RI-TWO DATE 1 78040 DATE 2 00000 QTY 2	0 TRANS-DATE 00000 SLC 2 SC K MC	CC OP-FR APRO	OP-TD
	MGR/ENTR DISP	REPLY-IND		

PAGE 00002

## EXAMPLE 10

### ERRONEOUS CANCELLATION WHEN SUBSTITUTE IS RELEASED FROM BACKORDER

In this example, a demand reversal was created for the substitute stock number when a Z7S Backorder Release transaction forced the issue of the substitute.

Program P50ALB (correctly) generates a demand reversal from an output status transaction (ITC 025, ITSC 005) when the status code matches an entry on Code Table DHSTATBL. However, 'BH' status code is entered on the table (see page E-34).

In this example, the reversal was generated from the 'BH' status (page E-32) which resulted from management backorder release of a substitute, (Z7S, page E-33). (All examples collected during this study were related to this same condition.)

Reversals generated from 'BH' status are invalid to Demand Analysis processing and will be rejected unless there happens to be a demand recorded under the substitute stock number for the same unit.

See Appendix A, page A-52, for further discussion of 'BH' status reversals.

PREPARED 73 FEB 04

DEMAND ANALYSIS ERROR AND EXCEPTION LISTING

PCN ALD-025

CUTOFF 78034

MGR - JMS DIC STOCK NUMBER

PG 330 DMA

6115-007780005

PG 330 DMA

6675-00003652

DODAAC

REQ DCC-NUMBER

UI

QUANTITY

PD NGT

TYPE OF ERROR

WX3NBM

EA

1

03

C

NO RECORD IN DEMAND FILE

WX3JRT

EA

6

06

C

NO RECORD IN DEMAND FILE

SUBSTITUTE STOCK NUMBER

EXAMPLE 10

E-31

END PAGE 00001



PREPARED 78 FEB 14	CYCLE R0013	SWITCH INQUIRY LIST	PCN ALB-007	CUTOFF 78044
MGR 2A				
RI-TWO MHJ DATE 1 00000 DATE 2 00000 JTY 2		0 TRANS-DATE 00001 SLC 2 SC 0 MC E CC H UP-FR A APPRO		OP-T0
MGR/ENTR 4 DISP	REPLY-IND			
*DCMSGHT	DCN WX3W3M72980560 DIC 275	ITC 021 ITSC 001 CJC 000 CYC 70053 JTY-1	1 SUP/DMO A ADV/STATUS EA RI-DNE	
RI-TWO MHJ DATE 1 00000 DATE 2 00000 JTY 2		0 TRANS-DATE 00000 SLC 2 SC 0 MC CC H UP-FR A APPRO		CP-T0
MGR/ENTR 4 DISP	REPLY-IND			
*DCMSGHT	DCN WX3W3M72980560 DIC AND ITC 027 ITSC 000 CJC 000 CYC 70041 JTY-1	1 SUP/DMO A ADV/STATUS	RI-DNE MH8	
RI-TWO DATE 1 78038 DATE 2 71038 JTY 2		0 TRANS-DATE 20008 SLC SC MC B CC Y UP-FR APPRO		OP-T0
MGR/ENTR 4 DISP	REPLY-IND			
*SPCSGHT	DCN WX3W3M72980560 JIC XX ITC 000 PREV-CMO-LIM 0000 FLD-CNT 2			
FLD-1 IND 1	FLD-2 IND 2	FLD-3 IND 0	FLD-4 IND 0	FLD-5 IND 0
FLD-1 6115007786005	FLD-2 X3W3M72980560 OAX FLD-3		FLD-4	FLD-5

SUBSTITUTE STOCK NUMBER  
 6115007786005



PREPARED 78 JAN 12 CYCLE C Q O C T A B L E F I L E L I S T PCN ALA-234 GUIDE 78

SYN-NAME ENTRY TOTAL ENTRIES EDITING CODES RES RECORD  
SIZE ENTRIES USED UNUSED CODE LENGTH

DHPURGE 05 0003 0003 0000 N 0064

C= 59045 61180

DHOVGRON 05 0018 0017 0001 N 0138

C= 01030 02030 03011 04030 05030 06016 07030 08030 09100 10100 12100 13067 14100 15100 99100

C=

DHREJTB 06 0071 0061 0010 999222 R 0474

C= AC3425 AC0415 AE3415 AE6415 AE9415 AG6415 AK3415 ARA415 ARB415 AR6415 AS3415 AUA415 AUB415

C= AU0415 AU3415 A54415 A58415 A50415 A5L415 A5L415 A54415 A55415 A57415 A6A415 A68415 A60415

C= A6E415 A61415 A62415 A64415 A65415 A67415 B00415 B6A415 B6B415 B6D415 B6E415 B6L415 B62415 B64415

C= B65415 B67415 B94415 B98415 D45415 D6K415 FTQ460 FTR460 FTS460 ZHR425 ZH2415 ZH3415 ZN2415

C= Z61415 Z69415 Z7A415 Z75415

LMSTATRL 04 0041 0038 0003 1322 R 0212

C= BF03 BM09 BQ02 BR02 BS02 BX04 B405 B602 CA06 CB07 CD10 CF08 CG07 CH08 CJ07 CK07 CL07 CM07 CN07

C= CP01 CQ07 CR07 CS07 CT07 CU07 CV07 CW01 CX10 CY07 CZ07 CL10 CZ07 C607 C710 ZC09 ZF09 Z009

DHTPARDO 09 0021 0001 0020 33333222 0238

C=

DHTPSROD 03 0002 0002 0000 222 0054

C= 015



CUTOFF 79041

PCN ALD-028

DEMAND ANALYSIS ITEM DATA REPORT  
(ONLY ON MASTER)

011500/731005

REQ NR 069 SWEARTSEN 2A

SUBSTITUTE STOCK NUMBER

NO RECORD IN DEMAND MASTER FILE

## EXAMPLE 11

### UNNECESSARY EXCEPTION LISTINGS

The examples show entries on the Exception Listing which the manager is unable to correct.

- 11-A.        The transaction cannot be identified. (The transactions are replies to catalog data requests and may be suppressed, if desired. See Appendix A, page A-15.)
- 11-B.        The level headers were recycled as a result of report requests in the previous weekly cycle for stock numbers not on the Demand File. Recycling of level headers when report requests are processed for stock numbers not on the Demand File (and their subsequent rejection in the next weekly demand cycle) should be suppressed. See Appendix A, page A-7, last paragraph, for coding details. Alternatively, all level header rejections for "no record in demand file" could be suppressed. See Appendix A, page A-15.
- 11-C.        In-transit receipt confirmations for which DSS Order Ship Time cannot be recorded because the Demand File is a "fringe memo". Coding to suppress the exception line for in-transit receipt confirmations when the demand record is a valid "fringe memo" is provided in Appendix A, page A-15.
- 11-D.        Rejected cancellation (reversal) is older than the period maintained on the Demand History File. There is coding in program P03ALD to suppress the exception line when the date of the cancellation transaction is earlier than maintained on the Demand History, but this coding is not accessed in all cases where a cancellation is being rejected. Coding changes to route all "not found" cancellations through the "cancellation check routine" are given in Appendix A, page A-14.

PREPARED 77 NOV 19 DEMAND ANALYSIS ERROR AND EXCEPTION LISTING PCN ALU-025 CUTOFF 77320

NGR	TRANS	DIC	STOCK NUMBER	DDAAC	REQ CODE	JOC-#	NUMBER	UI	QUANTITY	UAD	PD	MGT	TYPE OF ERROR
CODE						DATE	SER			CU		CU	
2	285		5935-009991434			7322		EA					NO RECORD IN DEMAND FILE
2	285		6220-006788479			7322		CA					NO RECORD IN DEMAND FILE
2	285		6240-009441264			7322		EA					NO RECORD IN DEMAND FILE
2	285		6675-009997254			7322		EA					NO RECORD IN DEMAND FILE

PREPARED 78 JAN 31

DEMAND ANALYSIS ERROR AND EXCEPTION LISTING

PCA ALD-025

CUTOFF 78030

MGR TRPS UIC STOCK NUMBER

06 295 ZPH 6135-006034859  
06 295 ZPH 6625-009267691

DEMAND NEW SUB-NUMBER U1

0627 0627

COM LITY

06 06

PD RGT

06 06

TYPE OF ERROR

NO RECORD IN DEMAND FILE  
NO RECORD IN DEMAND FILE

CUTOFF 78027

PCN ALD-025

DFMAND ANALYSIS ERROR AND EXCEPTION LISTING

PREPARED 78 JAN 28

FOR	TRANS	DIC	STUCK	NUMBER	DODAAC	REQ	DOC-	NUMBER	UI	QUANTITY	DND	PD	MG	TYPE
	CODE				CODE	CODE	DATE	SER			CD	CD	CD	OF ERROR
2H	287	89A	1560-004753931				7258		EA					NO RECORD IN DEMAND FILE
2H	287	89A	1560-008612117				7258		EA					NO RECORD IN DEMAND FILE
2H	287	89A	1560-009495464				7258		EA					NO RECORD IN DEMAND FILE
2H	287	89A	1680-006714955				7258		EA					NO RECORD IN DEMAND FILE
2H	287	89A	1680-010169014				7258		EA					NO RECORD IN DEMAND FILE

EXAMPLE 11-C.

E-40

END PAGE 00001

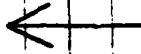
PREPARED 78 JAN 28

PCN ALD-J25

DEMAND ANALYSIS ERROR AND EXCEPTION LISTING

CUTOFF 78027

MGR	TRNS	DIC	STOCK	NUMBER	DDAAC	REQ	DOC-NUMBER	UI	QUANTITY	DMD	PD	MGY	TYPE OF ERROR
						CODE	DATE	SER		CD		CD	
6E	330	DHA	1214-850C4		AX3528		6316	0030	EA	4	R	15	C
													NO RECORD IN DEMAND FILE
6E	330	DHA	3510-012981890		AX3528		6316	0017	EA	400	R	15	C
													NO RECORD IN DEMAND FILE



EXAMPLE 11-D

E-41

END PAGE 00001





DEPARTMENT OF THE ARMY  
DEPUTY CHIEF OF STAFF FOR LOGISTICS  
WASHINGTON, D.C. 20310

26 SEP 1978

DALO-SMS

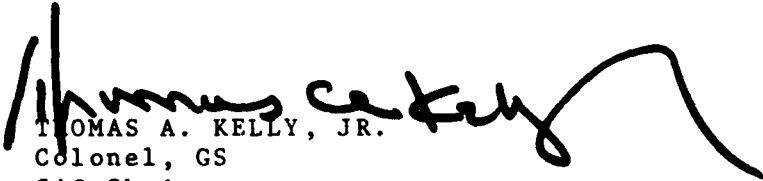
SUBJECT: System Audit of SAILS-AB(X)

SEE DISTRIBUTION

1. The second and concluding SAG for the subject study was held on 7 September 1978. A roster of SAG attendees is attached as TAB A. Since the SAG was limited in scope to submitting recommendation for correcting the draft report, the SAG minutes are organized by paragraph number of the draft report (TAB B).
2. Prior to distributing the final report, the Logistics Center member agreed to prepare a status report of system corrections being made (TAB C).
3. The final report itself is at TAB D. Request comments and recommendations for implementation of system changes be submitted to HQDA (DALO-SMS) NLT 10 November 1978.

FOR THE DEPUTY CHIEF OF STAFF FOR LOGISTICS:

4 Incl  
as

  
THOMAS A. KELLY, JR.  
Colonel, GS  
SAG Chairman

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HQDA, DALO-RMI  
HQDA, DALO-PLF

88 2 24 044

<u>Name</u>	<u>Organization</u>	<u>Autovon</u>
Walt Belknap	HQDA (DALO-SMS)	22-50850
William T. Cowan, JR	DCSLOG, Hq FORSCOM	588-2647/2198
Jordon J. Matkowski	USACSC, Sup Grp, Ft Lee	687-3714/4228
Barry W. McDaniel	HQDA, ODCSLOG	224-3691
Thomas R. Shick, Cpt	MFRG, DASG-HCL	687-2062/1543
George W. Ward	TRADOC, DCSLOG-ATLG	680-3458
Art Bona	DACS-DIS, HQDA	225-0288
Frank Ford	ATCL-SFX, LOGC, Ft Lee	687-3666
Milse Cuenin	ATCL-SFX, LOGC, Ft Lee	687-3666
Dorothy Swearingen	Computer Sciences	205-837-7200
Perry S. Finney	Computer Sciences	
Roy P. Kilpatrick	Computer Sciences	
F. C. Marr	HQDA, ODCSLOG	224-3711

TAB A

7. Paragraph 3.6.h., page 3-45. Change the last sentence to read:

"The Installation is making adjustments to the computer-generated dollar value entries in order to comply with instructions received from FORSCOM."

8. Paragraph 4.1, page 4-1.

This paragraph will be rewritten and coordinated with W. Belknap by telephone.

9. Recommendations, page 5-1.

The last sentence will be changed to read. "As a temporary expedient prior to the reevaluation, consideration should be given to changing Demand Systems Controls such as PMV\_, TRND and TMS\_<sub>IC</sub> to eliminate the use of average priority and demand trend from stockage determinations."

10. Throughout Document

In all cases where reference is made to the Appendices, the exact page reference within the Appendix should be included.

11. Exhibit 3, c.

The version number of each program should be included.

12. Appendix A, II.

The coding to eliminate the exception line for in-transit receipt confirmations should agree with the statement in paragraph 3.1.3.2.d. That is, the exception line should be eliminated only when the transaction matches a fringe memorandum on the Demand Master File.

13. Appendix A, VIII.

The narrative should be expanded to give additional information regarding cancellation processing.

14. Appendix E

The examples should be expanded to give additional information regarding cancellation processing.

15. Exhibits

Supplementary examples should be added where available.

TAB C

3

**MINUTES OF SAG (SAILS) MEETING, SEPT. 7, 1978**

The Draft Report of the System Audit of the Standard Intermediate Level System (SAILS) AB(X) should be changed as follows to produce the Final Report:

1. Insert the following disclaimer:

"The views, opinions and/or findings contained in this Report are those of the authors and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other documentation."

2. Paragraph 1.0, page 1-1. Insert the following in the second sentence after "Demand Analysis": "(except for the Demand Analysis Evaluator which was not operational in Hawaii and was not available for audit)".

3. Paragraph 1.2, page 1-1:

Change the first sentence to read: "The study effort was confined to the SAILS AB(X) prototype system as it was operating in Hawaii under SCP04 during the period January to March, 1978."

4. Paragraph 1.4, page 1-3: Change the second to last sentence to read:

"Several problems existed or have been introduced in SAILS AB(X)."

5. Paragraph 3.5.2.e., page 3-40. Change the first sentence to read:

"The forecast (trended) demand rate is invalid if there are DSS demands for the item."

6. Paragraph 3.5.2.h., page 3-41.

Delete paragraph h. and add paragraphs h. and i.:

**h. Retention Level**

Retention Level may be erroneously reduced if non-DSS demands exceed 98 per year and there are also numerous DSS demands for the item.

- i. Order Ship Time Level**

OST level will be distorted if DSS data is present because DSS data affects the selection of Safety Category Code, which is used in computing OST levels.



DEPARTMENT OF THE ARMY  
UNITED STATES ARMY LOGISTICS CENTER  
FORT LEE, VIRGINIA 23801

20 SEP 1978

ATCL-SFX

SUBJECT: Computer Science Corporation's Draft Audit Report

HQDA (DALO-SMS)  
ATTN: Mr. Belknap  
Washington, DC 20310

1. References:

a. System Advisory Group Meeting, 7 Sep 78, Computer Science Corporation Building, Falls Church, VA.

b. Computer Science Corporation's Draft Report, August 1978, subject: System Audit of Standard Army Intermediate Level System AB(X).

2. The following comments/update concerning the system deficiencies cited in reference 1b are furnished per your request.

a. Page 3-2, Paragraph 2 - Cancellations. Comment: As stated by USALOGC representative in subject meeting, additional clarification and documentation for the problems cited is required. Pending receipt, this office will request analyst review of current program logic. An SCR will be written once the errors cited are confirmed.

b. Page 3-3, Paragraph 3.1.3.1 - Deletion of Unit Type Code 4 and D Records. Comment: SCR L03-R038-850 has been written to effect the deletion of Unit Type Code (UTC) 4 and D records using the same deletion criteria as now used for other UTC records with zero frequencies.

c. Page 3-3, Paragraph 3.1.3.1 - The inclusion of DSS demand data in the trended demand rate is causing an erroneous reduction of levels. Comment: As stated in

5

7.1.3 C

ATCL-SFX

20 SEP 1978

SUBJECT: Computer Science Corporation's Draft Audit Report

the SAG Meeting, this problem does not distort the demand rates used in the levels computations but does affect the safety level calculated by virtue of the effect it has on the Safety Category Code computation. SCR L03-R038-498 will correct this problem. This SCR will eliminate the use of DSS demands in the computation of the normal and trended demand rate computations.

d. Page 3-5, Paragraph 3.1.3.2c(1)(a) - Incorrect stock number printed on PCN ALD-025 Exception Report. Comment: A routine SCR will be written to correct this print error.

e. Page 3-5, Paragraph 3.1.3.2c(2) - ABF and Demand Master File Catalog Inconsistencies. Comment: SCR L03-R038-456, Change 2, broadcast as EUCP L03-05-14 on 7 Aug 78, corrected the problems in the ABF Catalog Update Process which caused the discrepancies between the ABF and the DMF. A reconciliation between these two files is scheduled for 1 Oct 78.

f. Page 3-8, Paragraph 3.1.4.1 - Minimum Buy. Comment: SCR L03-R038-466 will correct the erroneous computation of an ISD backup quantity of one for mission essential items even though DASC Table STKS specifies no backup.

g. Page 3-8, Paragraph 3.1.4.1 - Shelf Life. Comment: There is an inconsistency in the shelf life and minimum EOQ logic as explained on page 3-11. However, with the commodity constant now specified we do not believe any item other than medical items could be affected and that any item, medical or nonmedical, which could be affected, would almost have to be manually managed as transit time would not allow any stockage other than that which could be consumed during the shelf life remaining after delivery. For these reasons no SCR will be written until the problem is discussed in detail with personnel from the Medical Functional Requirements Group.

h. Page 3-8, Paragraph 3.1.4.2 - Selection of Stockage Items by Issue Priority. Comment: The SAILS program does use both DSS and Non-DSS demands in the computation of the Average Issue Priority of the item. This is being done because separate fields for the elements used in the AIPD

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ATCL-SFX

1 SEP 1978

SUBJECT: Computer Science Corporation's Draft Audit Report

computation were not provided for when DSS was superimposed on the baseline demand system. Because expansion of the Demand Master File and the effect of doing so on all programs which reference this file would be a major undertaking, no SCR will be written at this time. Instead, separate correspondence addressing this and other problems caused by the lack of separate DSS and Non-DSS data fields will be forwarded to your office. This will be done after the changes thought to be required have been impacted by US Army Computer Systems Command Support Group, Fort Lee, VA.

i. Page 3-12, Paragraph 3.1.4.3c(2)c - Forecast Demand Rate. Comment:

(1) As discussed in the SAG Meeting and the CSC report, the forecasted demand rate does affect the safety level computation inasmuch as it is used to compute the Safety Category Code which is an element used in the Safety Level Computation. This double exponentially smoothed demand rate is not used as the demand rate as long as its use is blocked by the parameter entry in Demand Analysis System Control "TREND."

(2) To properly correct this shortcoming, the Demand File would have to be expanded and several other program changes would have to be made. Therefore, this problem will also be addressed under separate correspondence.

j. Page 3-19, Paragraph 3.1.5.2b and c - Safety Level Failures and Criteria Failures. Comment: It is true that the data required for these elements is not furnished to the demand system. However, no SCR will be written because the value of the data is questionable and major changes would be required to have the data furnished. Also, depending on the approach taken on the storage site corrections, use of these fields might negate the need to expand the demand master file.

k. Page 3-20, Paragraph 3.1.5.4a(1) - Levels Reason. Comment: An SCR will be written to correct this program deficiency which was also caused by DSS being superimposed on the demand system baseline. Once written, we will recommend that it be assigned a high priority because even though it does not affect computed levels, it does result in increase run times in both the demand system and the daily cycle.

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10 01 1973

SUBJECT: Computer Science Corporation's Draft Audit Report

l. Page 3-21, Paragraph 3.1.5.4a(2) - Study format DSS nonrecurring frequencies. Comment: No SCR will be written at this time to include DSS frequencies in the nonrecurring frequency counter on the study format. No computational error is present and to consolidate the DSS and Non-DSS frequency counters would not clarify matters. The proper change would be to display both the DSS and the Non-DSS frequencies and demand rates separately on the format. However, the study format would have to be redesigned in order to logically group these elements.

m. Page 3-22, Paragraph 3.1.5.4b(2) - Study format element "issued 12 Months." Comment: We agree that this element is meaningless but for another reason than cited in the CSC report. We feel it is meaningless because gross issues and returns, not exponentially smoothed demand and return rates must be used to be of any value as the dollar value of issues presently changes each month because of the exponential smoothing routine even though no activity occurs.

n. Page 3-23, Paragraph 3.1.5.4b(4) Percent of Trend and Percent of Variance. Comment: The same comments made above concerning DMF storage site structure and trend computations applies to the CSC's finding on these two elements.

o. Page 3-24, Paragraph 3.1.5.4b(6) - Date of Last Demand. Comment: The comment made in this paragraph is applicable only in a CONUS environment. No need to make a program change is seen.

p. Page 3-25, Paragraph 3.1.5.7a - PCN ALD-025 Exceptions. Comment: Comments made in the CSC report on this subject are argumentative. We recommend that no program change be made.

q. Page 3-26, Paragraph 3.1.5.7b - Stock number change message. Comment: A routine SCR will be written to print the proper stock number. The error has no effect on the levels computed.

r. Page 3-26, Paragraph 3.1.5.8 - Stratified ASL-PCN ALD-216. Comment: The same comments made above concerning trend apply to the comments made by CSC concerning PCN ALD-216. Redesign of the storage site segment of the DMF is required.



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s. Page 3-30, Paragraph 3.2.3 - Budget Stratification Report. Comment: All stratification report errors cited in this paragraph will be corrected with the implementation of SCR L03-R038-311 in SCP 06.

t. Page 3-35, Paragraph 3.3.4 - Demand Satisfaction. Comments:

(1) As of SCP 05, the project code is no longer used to distinguish DSS and Non-DSS transactions. With SCP 05 position 120 of the Document History File is tested for a "D." The "D" is assigned during basic cycle based on the Unit Type Code assigned to the DODAAC in the document number or supplementary address of incoming requisitions. The SCR number for this correction was L03-R038-488.

(2) No response as to the correctness of the Demand Satisfaction Figure on the PCN ALB-092 can be given at this time. This office will comment on this computation at a later date. More time is required to verify the correctness of this computation.

3. In summary, we believe all serious demand and stratification problems cited in the CSC report have been corrected or are scheduled for correction. Problems involving trend need to be addressed further and a decision made as to whether or not the major program changes required to accommodate single and double smoothing of both DSS and Non-DSS data will be made.

FOR THE COMMANDER:

  
D. C. POORMAN  
Colonel, GS

Director, Systems Design

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